



# **STIC Search Report**

## **Biotech-Chem Library**

**STIC Database Tracking Number: 125477**

**TO: Ralph J Gitomer**  
**Location: 3e65 / 3e71**  
**Tuesday, July 06, 2004**  
**Art Unit: 1651**  
**Phone: 272-0916**  
**Serial Number: 10 / 776970**

**From: Jan Delaval**  
**Location: Biotech-Chem Library**  
**Rem 1A51**  
**Phone: 272-2504**

**jan.delaval@uspto.gov**

### **Search Notes**

JAN 125477

Access DB# \_\_\_\_\_

# SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: 12 GITOMER Examiner #: \_\_\_\_\_ Date: 6/23/04  
Art Unit: 1651 Phone Number 30 \_\_\_\_\_ Serial Number: 10/776,970  
Mail Box and Bldg/Room Location: \_\_\_\_\_ Results Format Preferred (circle): PAPER DISK E-MAIL  
3E71

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: \_\_\_\_\_

*\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

JAN

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## STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>an</u>	NA Sequence (#) _____	STN <u>✓</u>
Searcher Phone #: <u>22506</u>	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) _____	Questel/Orbit _____
Date Searcher Picked Up: <u>7/6</u>	Bibliographic <u>✓</u>	Dr.Link _____
Date Completed: <u>7/6</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: _____	Fulltext _____	Sequence Systems _____
Clerical Prep Time: <u>15</u>	Patent Family _____	WWW/Internet _____
Online Time: <u>455</u>	Other _____	Other (specify) _____

=> fil reg

FILE 'REGISTRY' ENTERED AT 06:54:15 ON 06 JUL 2004

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 5 JUL 2004 HIGHEST RN 704870-92-8

DICTIONARY FILE UPDATES: 5 JUL 2004 HIGHEST RN 704870-92-8

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

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L89 ANSWER 1 OF 9 REGISTRY COPYRIGHT 2004 ACS on STN

RN 67775-34-2 REGISTRY

CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Cholesterol dehydrogenase

CN NAD(P)-dependent cholesterol dehydrogenase

MF Unspecified

CI MAN

LC STN Files: AGRICOLA, BIOSIS, CA, CAPLUS, TOXCENTER, USPAT2, USPATFULL

DT.CA CAplus document type: Journal; Patent

RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); USES (Uses)

RLD.P Roles for non-specific derivatives from patents: ANST (Analytical study); BIOL (Biological study); USES (Uses)

RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); USES (Uses); NORL (No role in record)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

96 REFERENCES IN FILE CA (1907 TO DATE)

4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

96 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 140:371462

REFERENCE 2: 140:353211

REFERENCE 3: 140:335264

REFERENCE 4: 140:160148

REFERENCE 5: 140:2513

REFERENCE 6: 138:381426

REFERENCE 7: 137:306912

REFERENCE 8: 137:106077

REFERENCE 9: 137:106013

REFERENCE 10: 136:337340

L89 ANSWER 2 OF 9 REGISTRY COPYRIGHT 2004 ACS on STN

RN 9028-76-6 REGISTRY

CN Oxidase, cholesterol (9CI) (CA INDEX NAME)

OTHER NAMES:

CN 3-Hydroxysteroid oxidase

CN Cholesterin oxidase

CN Cholesterol oxidase

CN E.C. 1.1.3.6

MF Unspecified

CI MAN

LC STN Files: AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSCHM, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, NAPRALERT, PROMT, TOXCENTER, USPAT2, USPATFULL

Other Sources: EINECS\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

DT.CA CAPLUS document type: Conference; Dissertation; Journal; Patent; Report

RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

RLD.P Roles for non-specific derivatives from patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)

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RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

1200 REFERENCES IN FILE CA (1907 TO DATE)

49 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

1201 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:20131

REFERENCE 2: 141:3154

REFERENCE 3: 140:418130

REFERENCE 4: 140:403569

REFERENCE 5: 140:402288

REFERENCE 6: 140:380457

REFERENCE 7: 140:371462

REFERENCE 8: 140:371322

REFERENCE 9: 140:356027

REFERENCE 10: 140:353211

L89 ANSWER 3 OF 9 REGISTRY COPYRIGHT 2004 ACS on STN

RN 9026-00-0 REGISTRY  
CN Esterase, cholesterol (9CI) (CA INDEX NAME)  
OTHER NAMES:  
CN Bile salt-stimulated lipase  
CN Cholesterase  
CN Cholesterin esterase  
CN Cholesterol ester hydrolase  
CN Cholesterol esterase  
CN Cholesteryl ester hydrolase  
CN Cholesteryl esterase  
CN COE 311  
CN E.C. 3.1.1.13  
CN Lysosomal acid lipase  
CN Neutral cholesteryl ester hydrolase  
CN Sterol ester hydrolase  
CN Sterol esterase  
DR 9040-56-6  
MF Unspecified  
CI MAN  
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO,  
CA, CABA, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN,  
CSCHEM, EMBASE, IFICDB, IFIPAT, IFIUDB, PROMT, TOXCENTER, USPAT2,  
USPATFULL  
Other Sources: EINECS\*\*, TSCA\*\*  
(\*\*Enter CHEMLIST File for up-to-date regulatory information)  
DT.CA Caplus document type: Conference; Dissertation; Journal; Patent; Report  
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study);  
CMBI (Combinatorial study); MSC (Miscellaneous); OCCU (Occurrence); PREP  
(Preparation); PROC (Process); PRP (Properties); RACT (Reactant or  
reagent); USES (Uses)  
RLD.P Roles for non-specific derivatives from patents: ANST (Analytical  
study); BIOL (Biological study); PREP (Preparation); PROC (Process);  
RACT (Reactant or reagent); USES (Uses)  
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological  
study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU  
(Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT  
(Reactant or reagent); USES (Uses); NORL (No role in record)  
RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical  
study); BIOL (Biological study); PREP (Preparation); PROC (Process); PRP  
(Properties); RACT (Reactant or reagent); USES (Uses)  
  
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*  
1921 REFERENCES IN FILE CA (1907 TO DATE)  
23 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
1922 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
  
REFERENCE 1: 141:28471  
  
REFERENCE 2: 140:407068  
  
REFERENCE 3: 140:403569  
  
REFERENCE 4: 140:371462  
  
REFERENCE 5: 140:371322  
  
REFERENCE 6: 140:369944  
  
REFERENCE 7: 140:356027  
  
REFERENCE 8: 140:353211  
  
REFERENCE 9: 140:335264

REFERENCE 10: 140:317453

L89 ANSWER 4 OF 9 REGISTRY COPYRIGHT 2004 ACS on STN

RN 9004-02-8 REGISTRY

CN Lipase, lipoprotein (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Clearing factor

CN Clearing factor lipase

CN E.C. 3.1.1.34

CN Lipemia-clearing factor

CN Lipoprotein lipase

CN LPL Amano 3

CN Postheparin plasma lipoprotein lipase

DR 9007-29-8, 9013-98-3

MF Unspecified

CI MAN

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO,  
CA, CABA, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN,  
CSCHEM, EMBASE, IFICDB, IFIPAT, IFIUDB, MEDLINE, MRCK\*, NIOSHTIC, PROMT,  
TOXCENTER, USPAT2, USPATFULL

(\*File contains numerically searchable property data)

Other Sources: EINECS\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

DT.CA Caplus document type: Book; Conference; Dissertation; Journal; Patent;  
Report

RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study);  
FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU  
(Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT  
(Reactant or reagent); USES (Uses); NORL (No role in record)

RLD.P Roles for non-specific derivatives from patents: BIOL (Biological  
study); PREP (Preparation); PROC (Process); USES (Uses)

RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological  
study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU  
(Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT  
(Reactant or reagent); USES (Uses); NORL (No role in record)

RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical  
study); BIOL (Biological study); PREP (Preparation); PROC (Process); PRP  
(Properties); RACT (Reactant or reagent); USES (Uses)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

6292 REFERENCES IN FILE CA (1907 TO DATE)

31 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

6295 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:22136

REFERENCE 2: 141:21807

REFERENCE 3: 141:21796

REFERENCE 4: 141:20783

REFERENCE 5: 141:1514

REFERENCE 6: 141:347

REFERENCE 7: 140:422089

REFERENCE 8: 140:421937

REFERENCE 9: 140:418601

REFERENCE 10: 140:418515

L89 ANSWER 5 OF 9 REGISTRY COPYRIGHT 2004 ACS on STN

RN 4090-29-3 REGISTRY

CN Adenosine 5'-(trihydrogen diphosphate), P'→5'-ester with  
3-(aminothioxomethyl)-1-β-D-ribofuranosylpyridinium, inner salt (9CI)  
(CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1-β-D-Ribofuranosyl-3-(thiocarbamoyl)pyridinium hydroxide, 5'-ester  
with adenosine 5'-pyrophosphate, inner salt (7CI)CN 1-β-D-Ribofuranosyl-3-thiocarbamoylpyridinium hydroxide, ester with  
adenosine 5'-diphosphate, inner salt (6CI)CN Adenosine 5'-(trihydrogen diphosphate), P'→5'-ester with  
3-(aminothioxomethyl)-1-β-D-ribofuranosylpyridinium hydroxide, inner  
saltCN Pyridinium, 1-β-D-ribofuranosyl-3-(thiocarbamoyl)-, hydroxide,  
5'→5'-ester with adenosine 5'-(trihydrogen pyrophosphate), inner  
salt (8CI)

OTHER NAMES:

CN (3-Thionicotinamide)AD

CN 3-Thiocarbamoylpyridine adenine dinucleotide

CN 3-Thionicotinamide adenine dinucleotide

CN Diphosphopyridine nucleotide, 3-pyridinecarbothioamide analog

CN Thio-NAD

CN Thionicotinamide-adenine dinucleotide

CN Thionicotinamide-DPN

CN Thionicotinamide-NAD

FS STEREOSEARCH

MF C21 H27 N7 O13 P2 S

LC STN Files: AGRICOLA, BEILSTEIN\*, BIOSIS, CA, CAOLD, CAPLUS, CHEMCATS,  
CHEMLIST, CSCHEM, MEDLINE, TOXCENTER, USPATFULL  
(\*File contains numerically searchable property data)

Other Sources: EINECS\*\*

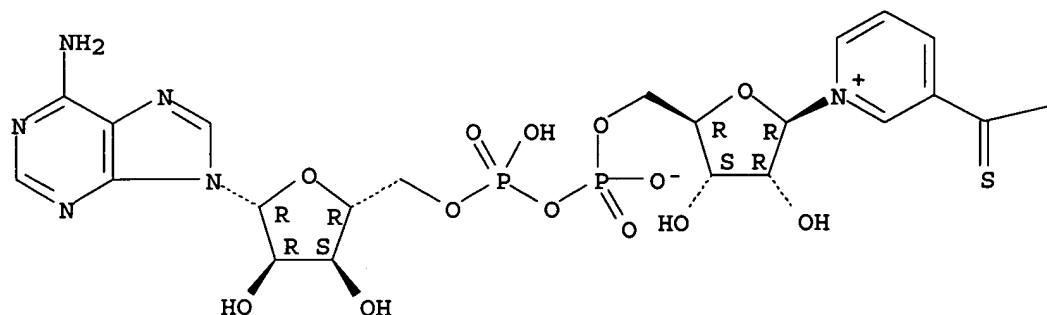
(\*\*Enter CHEMLIST File for up-to-date regulatory information)

DT.CA Caplus document type: Conference; Dissertation; Journal; Patent; Report

RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study);  
FORM (Formation, nonpreparative); PREP (Preparation); PRP (Properties);  
RACT (Reactant or reagent); USES (Uses)RLD.P Roles for non-specific derivatives from patents: ANST (Analytical  
study); PREP (Preparation)RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological  
study); FORM (Formation, nonpreparative); PROC (Process); PRP  
(Properties); RACT (Reactant or reagent); USES (Uses)RLD.NP Roles for non-specific derivatives from non-patents: BIOL (Biological  
study); FORM (Formation, nonpreparative); PREP (Preparation); PROC  
(Process); PRP (Properties); RACT (Reactant or reagent)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

—NH<sub>2</sub>

182 REFERENCES IN FILE CA (1907 TO DATE)  
8 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
182 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
25 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 140:195867  
REFERENCE 2: 140:195558  
REFERENCE 3: 139:304134  
REFERENCE 4: 139:164340  
REFERENCE 5: 138:168934  
REFERENCE 6: 137:348317  
REFERENCE 7: 137:321939  
REFERENCE 8: 137:228511  
REFERENCE 9: 137:165810  
REFERENCE 10: 137:17423

L89 ANSWER 6 OF 9 REGISTRY COPYRIGHT 2004 ACS on STN

RN 302-01-2 REGISTRY

CN Hydrazine (7CI, 8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN Levoxine

CN Nitrogen hydride (N<sub>2</sub>H<sub>4</sub>)

CN Oxytreat 35

FS 3D CONCORD

DR 119775-10-9, 75013-58-0, 31886-26-7

MF H4 N2

CI COM

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHM, CSNB, DDFU, DETHERM\*, DIPPR\*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN\*, HODOC\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, NIOSHTIC, PDLCOM\*, PIRA, PROMT, PS, RTECS\*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VTB  
(\*File contains numerically searchable property data)

Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

DT.CA Caplus document type: Book; Conference; Dissertation; Journal; Patent; Preprint; Report

RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)

RLD.P Roles for non-specific derivatives from patents: ANST (Analytical



study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); CMBI (Combinatorial study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)

RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical study); BIOL (Biological study); CMBI (Combinatorial study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

H<sub>2</sub>N-NH<sub>2</sub>

**\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\***

21133 REFERENCES IN FILE CA (1907 TO DATE)  
1434 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
21146 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 141:32937

REFERENCE 2: 141:32893

REFERENCE 3: 141:32790

REFERENCE 4: 141:25636

REFERENCE 5: 141:24087

REFERENCE 6: 141:23748

REFERENCE 7: 141:23558

REFERENCE 8: 141:23557

REFERENCE 9: 141:19516

REFERENCE 10: 141:15963

L89 ANSWER 7 OF 9 REGISTRY COPYRIGHT 2004 ACS on STN

RN 57-88-5 REGISTRY

CN Cholest-5-en-3-ol (3β) - (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Cholesterol (8CI)

OTHER NAMES:

CN (-)-Cholesterol

CN Δ<sup>5</sup>-Cholesten-3β-ol

CN 3β-Hydroxycholest-5-ene

CN 5:6-Cholesten-3β-ol

CN Cholest-5-en-3β-ol

CN Cholesterin

CN Cholesteryl alcohol

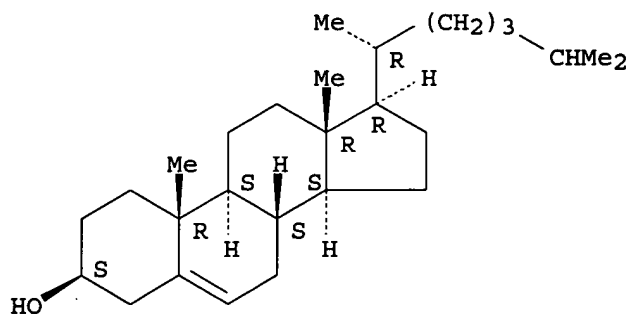
CN Dythol

CN Lidinit

CN Lidinite

CN NSC 8798

Absolute stereochemistry.



103718 REFERENCES IN FILE CA (1907 TO DATE)  
8865 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
103836 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
15 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 141:28648

REFERENCE 2: 141:28647  
REFERENCE 3: 141:28646  
REFERENCE 4: 141:28640  
REFERENCE 5: 141:28632  
REFERENCE 6: 141:28609  
REFERENCE 7: 141:28606  
REFERENCE 8: 141:28605  
REFERENCE 9: 141:28579  
REFERENCE 10: 141:28418

L89 ANSWER 8 OF 9 REGISTRY COPYRIGHT 2004 ACS on STN

RN 53-59-8 REGISTRY

CN Adenosine 5'-(trihydrogen diphosphate), 2'-(dihydrogen phosphate),  
P'→5'-ester with 3-(aminocarbonyl)-1-β-D-  
ribofuranosylpyridinium, inner salt (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Adenosine 5'-(trihydrogen diphosphate), 2'-(dihydrogen phosphate),  
P'→5'-ester with 3-(aminocarbonyl)-1-β-D-  
ribofuranosylpyridinium hydroxide, inner salt

CN Pyridinium, 3-carbamoyl-1-β-D-ribofuranosyl-, hydroxide,  
5'→5'-ester with adenosine 2'-(dihydrogen phosphate)  
5'-(trihydrogen pyrophosphate), inner salt (8CI)

OTHER NAMES:

CN β-NADP

CN β-Nicotinamide adenine dinucleotide phosphate

CN β-TPN

CN Adenine-nicotinamide dinucleotide phosphate

CN Codehydrase II

CN Codehydrogenase II

CN Coenzyme II

CN Cozymase II

CN NAD phosphate

CN NADP

CN NADP+

CN Nicotinamide-adenine dinucleotide phosphate

CN TPN

CN TPN (nucleotide)

CN Triphosphopyridine nucleotide

FS STEREOSEARCH

DR 10213-33-9, 162195-92-8, 25158-33-2, 27678-67-7

MF C21 H28 N7 O17 P3

CI COM

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN\*, BIOBUSINESS, BIOSIS,  
BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CHEMCATS,  
CHEMINFORMRX, CHEMLIST, CIN, CSCHM, DDFU, DRUGU, EMBASE, IFICDB,  
IFIPAT, IFIUDB, MEDLINE, MRCK\*, NAPRALERT, NIOSHTIC, PIRA, PROMT,  
RTECS\*, TOXCENTER, USPAT2, USPATFULL

(\*File contains numerically searchable property data)

Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

DT.CA Caplus document type: Book; Conference; Dissertation; Journal; Patent;  
Report

RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study);  
CMBI (Combinatorial study); FORM (Formation, nonpreparative); OCCU  
(Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT

(Reactant or reagent); USES (Uses); NORL (No role in record)

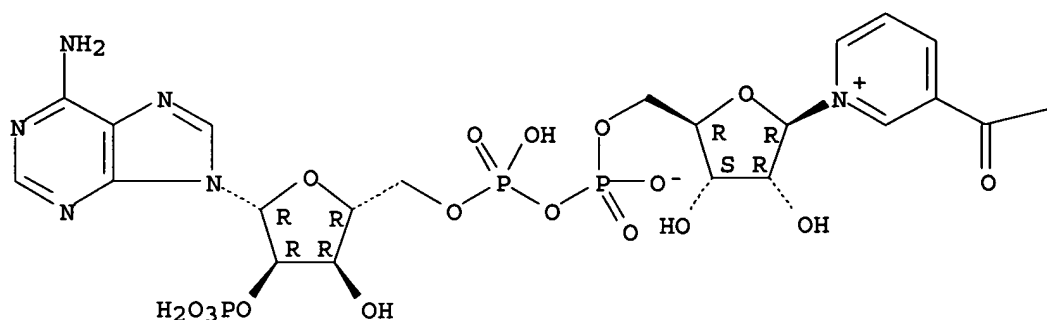
RLD.P Roles for non-specific derivatives from patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); USES (Uses)

RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)

RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

—NH<sub>2</sub>

6429 REFERENCES IN FILE CA (1907 TO DATE)  
 216 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 6434 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
 89 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 141:22276  
 REFERENCE 2: 141:20426  
 REFERENCE 3: 141:19466  
 REFERENCE 4: 141:19451  
 REFERENCE 5: 141:9611  
 REFERENCE 6: 141:3774  
 REFERENCE 7: 140:422492  
 REFERENCE 8: 140:420384  
 REFERENCE 9: 140:419898  
 REFERENCE 10: 140:403404

L89 ANSWER 9 OF 9 REGISTRY COPYRIGHT 2004 ACS on STN

RN 53-57-6 REGISTRY

CN Adenosine 5'-(trihydrogen diphosphate), 2'-(dihydrogen phosphate),  
P'→5'-ester with 1,4-dihydro-1-β-D-ribofuranosyl-3-  
pyridinecarboxamide (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Adenosine, 2'-(dihydrogen phosphate) 5'-(trihydrogen pyrophosphate),  
5'→5'-ester with 1,4-dihydro-1-β-D-ribofuranosylnicotinamide  
(8CI)

OTHER NAMES:

CN β-NADPH

CN β-Nicotinamide-adenine-dinucleotide-phosphoric acid

CN β-TPNH

CN Codehydrase II, reduced

CN Codehydrogenase II, reduced

CN Coenzyme II, reduced

CN Cozymase II, reduced

CN Dihydrocodehydrogenase II

CN NADPH

CN NADPH2

CN Nicotinamide-adenine dinucleotide phosphate, reduced

CN Reduced codehydrogenase II

CN Reduced nicotinamide adenine dinucleotide phosphate

CN Reduced triphosphopyridine nucleotide

CN TPNH

CN Triphosphopyridine nucleotide, reduced

FS STEREOSEARCH

DR 22046-90-8, 3545-01-5

MF C21 H30 N7 O17 P3

CI COM

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN\*, BIOBUSINESS, BIOSIS,  
BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMLIST,  
CIN, CSCHM, DDFU, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MRCK\*,  
NIOSTIC, PROMT, TOXCENTER, USPAT2, USPATFULL

(\*File contains numerically searchable property data)

Other Sources: EINECS\*\*, NDSL\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

DT.CA Caplus document type: Book; Conference; Dissertation; Journal; Patent;  
Report

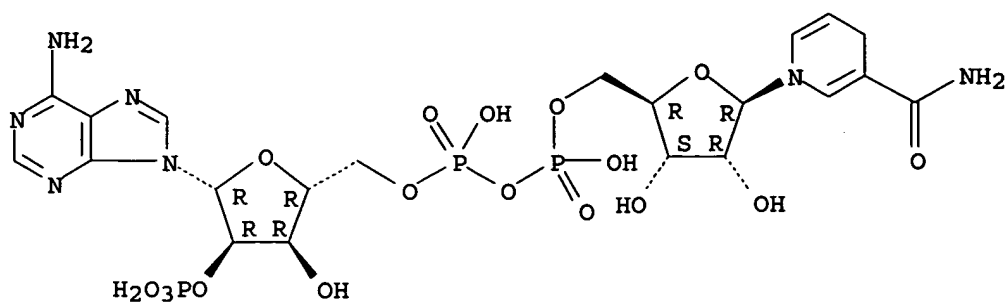
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study);  
FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU  
(Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT  
(Reactant or reagent); USES (Uses)

RLD.P Roles for non-specific derivatives from patents: ANST (Analytical  
study); BIOL (Biological study); PREP (Preparation); PROC (Process); PRP  
(Properties); USES (Uses)

RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological  
study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU  
(Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT  
(Reactant or reagent); USES (Uses); NORL (No role in record)

RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical  
study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU  
(Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT  
(Reactant or reagent); USES (Uses)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

10567 REFERENCES IN FILE CA (1907 TO DATE)  
 207 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 10584 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
 57 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 141:22276  
 REFERENCE 2: 141:20507  
 REFERENCE 3: 141:19642  
 REFERENCE 4: 141:19485  
 REFERENCE 5: 141:19451  
 REFERENCE 6: 141:12352  
 REFERENCE 7: 141:9611  
 REFERENCE 8: 141:5751  
 REFERENCE 9: 141:3550  
 REFERENCE 10: 141:1536

=> d his

(FILE 'HOME' ENTERED AT 06:12:05 ON 06 JUL 2004)  
 SET COST OFF

FILE 'REGISTRY' ENTERED AT 06:12:21 ON 06 JUL 2004

L1 1 S CHOLESTEROL/CN  
 E LIPOPROTEIN LIPASE/CN  
 L2 1 S E3  
 E CHOLESTEROL ESTERASE/CN  
 E CHOLESTEROL DEHYDROGENASE/CN  
 L4 1 S E3  
 E CHOLESTEROL OXIDASE/CN  
 L5 1 S E3  
 L6 1 S HYDRAZINE/CN  
 L7 2882 S 302-01-2/CRN  
 L8 97 S L7 NOT ((PMS OR MXS OR IDS OR MNS)/CI OR COMPD OR WITH OR LAB  
 L9 80 S L8 NOT SALT  
 L10 12 S L9 AND NR>=1  
 L11 3 S L10 AND 46.150.18/RID AND 2/NC

L12 68 S L9 NOT L10  
L13 64 S L12 NOT (CONJUGATE OR DERIV)  
L14 17 S L8 NOT L9  
L15 7 S L14 AND NR>=1  
L16 10 S L14 NOT L15  
L17 4 S L16 NOT HYDRAZINE SALT  
L18 8 S L6,L11,L17  
E HYDRAZINE HYDRATE/CN  
L19 7 S L18 NOT DERIV  
L20 178 S L7 AND H2O  
L21 14 S L20 AND L8  
L22 21 S L19,L21  
E SODIUM CHLORIDE/CN  
L23 1 S E3  
E UREA/CN  
L24 1 S E3  
E GUANIDINE/CN  
L25 1 S E3  
E SEMICARBAZIDE/CN  
L26 1 S E3

FILE 'HCAPLUS' ENTERED AT 06:21:20 ON 06 JUL 2004

L27 66 S BETA NICOTINAMIDE ADENINE DINUCLEOTIDE  
L28 14 S BETA NICOTINAMIDE ADENINE DINUCLEOTIDE PHOSPHATE  
L29 85 S THIONICOTINAMIDE ADENINE DINUCLEOTIDE  
L30 28 S THIONICOTINAMIDE ADENINE DINUCLEOTIDE PHOSPHATE

FILE 'HCAPLUS' ENTERED AT 06:23:25 ON 06 JUL 2004

S 53-57-6/REG# OR 53-59-8/REG# OR 4090-29-3/REG# OR 19254-05

FILE 'REGISTRY' ENTERED AT 06:23:42 ON 06 JUL 2004

L31 1 S 19254-05-8/RN

FILE 'HCAPLUS' ENTERED AT 06:23:42 ON 06 JUL 2004

L32 102 S L31

FILE 'REGISTRY' ENTERED AT 06:23:43 ON 06 JUL 2004

L33 1 S 4090-29-3/RN

FILE 'HCAPLUS' ENTERED AT 06:23:43 ON 06 JUL 2004

L34 182 S L33

FILE 'REGISTRY' ENTERED AT 06:23:43 ON 06 JUL 2004

L35 1 S 53-59-8/RN

FILE 'HCAPLUS' ENTERED AT 06:23:44 ON 06 JUL 2004

L36 6441 S L35

FILE 'REGISTRY' ENTERED AT 06:23:44 ON 06 JUL 2004

L37 1 S 53-57-6/RN

FILE 'HCAPLUS' ENTERED AT 06:23:44 ON 06 JUL 2004

L38 10584 S L37  
L39 14655 S L38 OR L36 OR L34 OR L32  
L40 48786 S NADP OR NADPH  
L41 140 S THIONAD OR THIONADP OR THIO() (NAD OR NADP)  
L42 50976 S L27-L30,L39-L41  
L43 599409 S L22-L26 OR HYDRAZINE OR (NA OR SODIUM)() CHLORIDE OR UREA OR G  
L44 10119 S L2 OR L\*\*\* OR LIPOPROTEIN LIPASE OR CHOLESTEROL ESTERASE  
L45 3166 S L\*\*\* OR L4 OR CHOLESTEROL() (DEHYDROGENASE OR OXIDASE)  
L46 103688 S L1  
L47 29371 S HDL OR (HIGH OR H)() (D OR DEN OR DENSITY) (S) LIPOPROTEIN  
L48 226 S VHDL OR VERY() (HIGH OR H)() (D OR DEN OR DENSITY) (S) LIPOPROTEI

L49 18105 S L46 AND L47,L48  
 L50 4 S L49 AND L42 AND L43  
 L51 15 S L49 AND (NONIONIC OR NON IONIC) (S) SURFACTANT  
 L52 10 S L49 AND ION? (L) STRENGTH  
 L53 29 S L50-L52  
 L54 16 S L53 AND ENZYM?  
 L55 16 S L53 AND L44  
 L56 16 S L53 AND L45  
 L57 19 S L54-L56  
 L58 10 S L53 NOT L57  
 L59 1 S L58 AND QUANTITATION  
 SEL DN AN 8 11 17 L57  
 L60 16 S L57 NOT E1-E9  
 L61 17 S L59,L60  
 L62 1 S (JP99-53330 OR WO2000-JP1172)/AP,PRN  
 E KISHI K/AU  
 L63 137 S E3  
 E KISHI KO/AU  
 L64 31 S E10  
 E KISHI K/AU  
 L65 137 S E3  
 E KOJI K/AU  
 L66 1 S E3  
 E KAKUYAMA T/AU  
 L67 7 S E3,E5  
 E TSUTOMU K/AU  
 E OCHIAI K/AU  
 L68 59 S E3  
 E OCHIAI KO/AU  
 L69 14 S E3,E8  
 E KOJI O/AU  
 E HASEGAWA Y/AU  
 L70 429 S E3,E4  
 E HASEGAWA YU/AU  
 L71 17 S E3,E38  
 E YUZO H/AU  
 E I REAGENT/CS,PA  
 E IN REAGENT/CS,PA  
 E INT REAGENT/CS,PA  
 L72 2 S E5,E6  
 E INTL REAGENT/CS,PA  
 E INT L REAGENT/CS,PA  
 E INTER REAGENT/CS,PA  
 E INTERN REAGENT/CS,PA  
 E INTERNAT REAGENT/CS,PA  
 E INTERNATIONAL REAGENT/CS,PA  
 L73 150 S E5-E21  
 L74 16 S L63-L73 AND L46  
 L75 13 S L74 AND L39-L45  
 L76 5 S L75 AND L47,L48  
 L77 22 S L61,L62,L76  
 L78 11 S L74 NOT L77  
 SEL DN AN 3 4 11  
 L79 8 S L78 NOT E1-E9  
 L80 30 S L77,L79 AND L1-L6,L22-L26,L27-L30,L32,L34,L36,L38-L79  
 L81 30 S L80 AND (?CHOLESTER? OR ENZYM? OR ?LIPOPROTEIN? OR ?LIPASE? O  
 L82 1 S L81 AND BIOMOLECULE  
 L83 29 S L81 NOT L82  
 L84 25 S L1 (L) (ANT OR ANST)/RL AND L83  
 L85 4 S L83 NOT L84  
 L86 29 S L84,L85  
 L87 4 S L86 AND (NAD OR NADP OR THIONAD OR THIONADP OR THIO() (NAD OR



L88 29 S L86,L87  
SEL HIT RN

L89 FILE 'REGISTRY' ENTERED AT 06:53:53 ON 06 JUL 2004  
9 S E10-E18

FILE 'REGISTRY' ENTERED AT 06:54:15 ON 06 JUL 2004

=> fil hcaplus  
FILE 'HCAPLUS' ENTERED AT 06:54:25 ON 06 JUL 2004  
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FILE COVERS 1907 - 6 Jul 2004 VOL 141 ISS 2  
FILE LAST UPDATED: 5 Jul 2004 (20040705/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d l88 all hitstr tot

L88 ANSWER 1 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:468036 HCAPLUS  
ED Entered STN: 10 Jun 2004  
TI Method for measuring lipid in specific **lipoprotein**  
IN Yamamoto, Shoko; Yamamoto, Mitsuaki; Nakanishi, Kazuo; Saito, Kazunori  
PA Daiichi Pure Chemicals Co., Ltd., Japan  
SO PCT Int. Appl., 36 pp.  
CODEN: PIXXD2  
DT Patent  
LA Japanese  
IC ICM C12Q001-60  
ICS C12Q001-26; C12Q001-44; C12Q001-00; G01N033-92  
CC 9-16 (Biochemical Methods)  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004048605	A1	20040610	WO 2003-JP15080	20031126
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI JP 2002-343979	A	20021127		

JP 2002-346115 A 20021128

AB A method for measuring a target lipid (e.g., **cholesterol**, neutral lipid, phospholipid) in a specific **lipoprotein** (e.g., **HDL**, **LDL**, **IDL**, **VLDL**, chylomicron) is provided, which is characterized in that a polycyclic polyoxyalkylene der. is used at least in the step of determining the specificity in the measurement of the target lipid.

ST lipid **cholesterol lipoprotein enzymic analysis surfactant**

IT **Surfactants**  
(anionic; **enzymic** method for measuring lipid in specific **lipoprotein** in presence of **surfactant**)

IT Chylomicrons  
Hydrophile-lipophile balance value  
(**enzymic** method for measuring lipid in specific **lipoprotein** in presence of **surfactant**)

IT Lipids  
Phospholipids  
RL: ANT (Analyte); ANST (Analytical study)  
(**enzymic** method for measuring lipid in specific **lipoprotein** in presence of **surfactant**)

IT **Enzymes**  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(**enzymic** method for measuring lipid in specific **lipoprotein** in presence of **surfactant**)

IT **Lipoproteins**  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(**enzymic** method for measuring lipid in specific **lipoprotein** in presence of **surfactant**)

IT **Lipoproteins**  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(high-d.; **enzymic** method for measuring lipid in specific **lipoprotein** in presence of **surfactant**)

IT **Lipoproteins**  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(intermediate-d.; **enzymic** method for measuring lipid in specific **lipoprotein** in presence of **surfactant**)

IT **Lipoproteins**  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(low-d.; **enzymic** method for measuring lipid in specific **lipoprotein** in presence of **surfactant**)

IT Lipids  
RL: ANT (Analyte); ANST (Analytical study)  
(neutral; **enzymic** method for measuring lipid in specific **lipoprotein** in presence of **surfactant**)

IT **Surfactants**  
(nonionic; **enzymic** method for measuring lipid in specific **lipoprotein** in presence of **surfactant**)

IT Polyoxyalkylenes  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(polycyclic derivative; **enzymic** method for measuring lipid in specific **lipoprotein** in presence of **surfactant**)

IT **Lipoproteins**  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(very-low-d.; **enzymic** method for measuring lipid in specific **lipoprotein** in presence of **surfactant**)

IT 57-88-5, **Cholesterol**  
RL: ANT (Analyte); ANST (Analytical study)  
(**enzymic** method for measuring lipid in specific **lipoprotein** in presence of **surfactant**)

IT 9001-62-1, **Lipase**, triacylglycerol  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

(enzymic method for measuring lipid in specific  
lipoprotein in presence of surfactant)

IT 9086-52-6, Newcol 610 55901-03-6, Newcol 714 69599-43-5, Emulgen A90  
70880-56-7, D 6112W 100786-29-6, Newcol 710 101484-45-1, Newcol 710F  
174200-85-2, Sorpol T-15 215112-51-9, Sunmorl 2SP-180 244024-43-9,  
Newcol 2609 272778-38-8, Newcol 714F 390747-41-8 700875-95-2  
700876-10-4 700876-18-2 700876-29-5 700876-31-9 700876-67-1  
700877-54-9 701212-51-3 701212-52-4

RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(enzymic method for measuring lipid in specific  
lipoprotein in presence of surfactant)

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

- (1) Arkray Inc; WO 0238800 A1 2002 HCAPLUS
- (2) Arkray Inc; EP 1342792 A1 2002 HCAPLUS
- (3) Arkray Inc; JP 2002142799 A 2002 HCAPLUS
- (4) Daiichi Kagaku Yakuhin Kabushiki Kaisha; JP 09-313200 A 1997 HCAPLUS
- (5) Daiichi Kagaku Yakuhin Kabushiki Kaisha; US 6057118 A 1997 HCAPLUS
- (6) Daiichi Kagaku Yakuhin Kabushiki Kaisha; US 6333166 B1 1997
- (7) Daiichi Kagaku Yakuhin Kabushiki Kaisha; EP 913484 A1 1997 HCAPLUS
- (8) Daiichi Kagaku Yakuhin Kabushiki Kaisha; WO 97045553 A1 1997
- (9) Daiichi Kagaku Yakuhin Kabushiki Kaisha; EP 1046716 A1 1999 HCAPLUS
- (10) Daiichi Kagaku Yakuhin Kabushiki Kaisha; JP 11-056395 A 1999 HCAPLUS
- (11) Daiichi Kagaku Yakuhin Kabushiki Kaisha; WO 9910526 A1 1999 HCAPLUS
- (12) Daiichi Kagaku Yakuhin Kabushiki Kaisha; JP 2002214239 A 2002 HCAPLUS
- (13) Denka Seiken Kabushiki Kaisha; JP 11-318496 A 1999 HCAPLUS

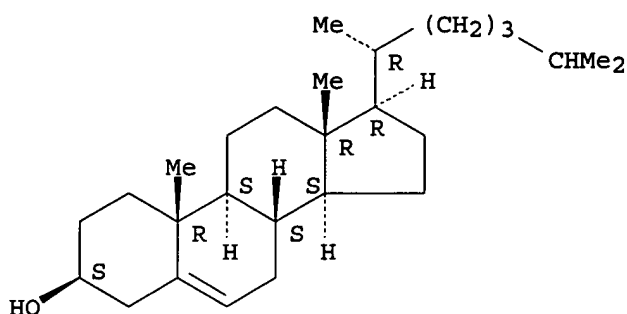
IT 57-88-5, Cholesterol

RL: ANT (Analyte); ANST (Analytical study)  
(enzymic method for measuring lipid in specific  
lipoprotein in presence of surfactant)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L88 ANSWER 2 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:355109 HCAPLUS

DN 140:371462

ED Entered STN: 30 Apr 2004

TI Method and reagent for measuring cholesterol in  
high-density lipoprotein

IN Katayama, Yuki; Fujinaka, Mayumi; Moriyama, Satoshi; Murata, Shigeru

PA Kyowa Medex Co., Ltd., Japan

SO PCT Int. Appl., 115 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C12Q001-60

ICS C12Q001-26; C12Q001-32; C12Q001-44; G01N033-92; C07J001-00

CC 9-2 (Biochemical Methods)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004035817	A1	20040429	WO 2003-JP13259	20031016
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRAI JP 2002-301328 A 20021016

OS MARPAT 140:371462

AB A method and a reagent are provided for enzymically measuring **cholesterol** in **high-d. lipoprotein** in a test sample. The method is characterized in that it comprises reacting a sample with **cholesterol esterase** and **cholesterol oxidase**, or with **cholesterol esterase**, an oxidized coenzyme and **cholesterol dehydrogenase**, in an aqueous medium containing a bile acid derivative, and then, measuring the formed hydrogen peroxide or reduced coenzyme.

ST **cholesterol HDL enzymic analysis bile acid**

IT Bile acids

RL: ARU (Analytical role, unclassified); ANST (Analytical study) (anionic derivative; method and reagent for enzymically measuring **cholesterol** in **high d. lipoprotein**)

IT **Surfactants**

(anionic; method and reagent for enzymically measuring **cholesterol** in **high d. lipoprotein**)

IT Albumins, analysis

RL: ARU (Analytical role, unclassified); ANST (Analytical study) (bovine; method and reagent for enzymically measuring **cholesterol** in **high d. lipoprotein**)

IT **Lipoproteins**

RL: BSU (Biological study, unclassified); BIOL (Biological study) (**high-d.**; method and reagent for enzymically measuring **cholesterol** in **high d. lipoprotein**)

IT Blood analysis

Human

Test kits

UV and visible spectroscopy

(method and reagent for enzymically measuring **cholesterol** in **high d. lipoprotein**)

IT **Surfactants**

(nonionic; method and reagent for enzymically measuring **cholesterol** in **high d. lipoprotein**)

IT Coenzymes

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (oxidized; method and reagent for enzymically measuring **cholesterol** in **high d. lipoprotein**)

IT Coenzymes

RL: ANT (Analyte); CPS (Chemical process); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process)  
 (reduced; method and reagent for enzymically measuring cholesterol in high d. lipoprotein)

## IT Surfactants

(zwitterionic; method and reagent for enzymically measuring cholesterol in high d. lipoprotein)

## IT 9026-00-0, Cholesterol esterase

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (chemical modified; method and reagent for enzymically measuring cholesterol in high d. lipoprotein)

## IT 57-88-5, Cholesterol, analysis

RL: ANT (Analyte); ANST (Analytical study)  
 (method and reagent for enzymically measuring cholesterol in high d. lipoprotein)

## IT 7722-84-1, Hydrogen peroxide, analysis

RL: ANT (Analyte); CPS (Chemical process); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process)  
 (method and reagent for enzymically measuring cholesterol in high d. lipoprotein)

## IT 9028-76-6, Cholesterol oxidase

## 67775-34-2, Cholesterol dehydrogenase

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (method and reagent for enzymically measuring cholesterol in high d. lipoprotein)

IT 81-24-3D, Taurocholic acid, and salt 81-25-4D, Cholic acid, and salt  
 83-44-3D, Deoxycholic acid, and salt 83-49-8D, Hyodeoxycholic acid, and salt  
 128-13-2D, Ursodeoxycholic acid, and salt 361-09-1, Sodium cholate  
 434-13-9D, Lithocholic acid, and salt 474-25-9D, Chenodeoxycholic acid, and salt  
 475-31-0D, Glycocholic acid, and salt 547-75-1D, Hyocholic acid, and salt  
 911-40-0D, 7-Oxodeoxycholic acid, and salt 2458-08-4D, 12-Oxochenodeoxycholic acid, and salt  
 4651-67-6D, 7-Oxolithocholic acid, and salt 5130-29-0D, 12-Oxolithocholic acid, and salt  
 9042-14-2, Dextran, hydrogen sulfate

RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (method and reagent for enzymically measuring cholesterol in high d. lipoprotein)

IT 432027-39-9P 682741-39-5P 682741-40-8P 682741-41-9P 682741-42-0P  
 682741-43-1P 682741-44-2P 682741-45-3P 682741-46-4P 683246-10-8P  
 RL: ARU (Analytical role, unclassified); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)  
 (method and reagent for enzymically measuring cholesterol in high d. lipoprotein)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE

- (1) Iatron Lab Inc; JP 09-537922 A 1997
- (2) Iatron Lab Inc; WO 9740376 A1 1997 HCAPLUS
- (3) Iatron Lab Inc; JP 11-009300 A 1999 HCAPLUS
- (4) Kyowa Medex Co Ltd; JP 08-131197 A 1995 HCAPLUS
- (5) Kyowa Medex Co Ltd; US 5691159 A 1995 HCAPLUS
- (6) Kyowa Medex Co Ltd; US 5888755 A 1995 HCAPLUS
- (7) Kyowa Medex Co Ltd; EP 699767 A1 1995 HCAPLUS
- (8) Kyowa Medex Co Ltd; WO 9524502 A1 1995 HCAPLUS
- (9) Toyobo Co Ltd; JP 08-116996 A 1996 HCAPLUS

## IT 9026-00-0, Cholesterol esterase

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (chemical modified; method and reagent for enzymically  
 measuring cholesterol in high d.  
 lipoprotein)

RN 9026-00-0 HCAPLUS

CN Esterase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

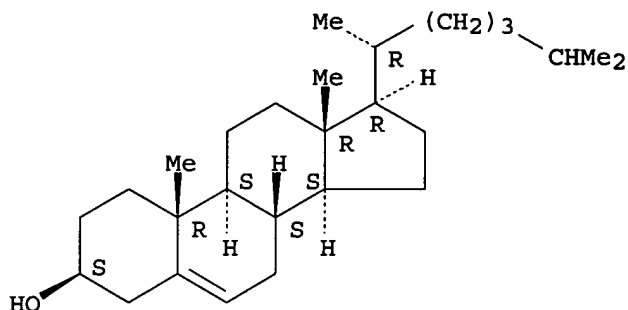
IT 57-88-5, Cholesterol, analysis

RL: ANT (Analyte); ANST (Analytical study)  
 (method and reagent for enzymically measuring  
 cholesterol in high d. lipoprotein  
 )

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 9028-76-6, Cholesterol oxidase

67775-34-2, Cholesterol dehydrogenase

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (method and reagent for enzymically measuring  
 cholesterol in high d. lipoprotein  
 )

RN 9028-76-6 HCAPLUS

CN Oxidase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 67775-34-2 HCAPLUS

CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L88 ANSWER 3 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:355108 HCAPLUS

DN 140:353211

ED Entered STN: 30 Apr 2004

TI Method and reagent for measuring cholesterol in  
 high density lipoprotein

IN Katayama, Yuki; Fujinaka, Mayumi

PA Kyowa Medex Co., Ltd., Japan

SO PCT Int. Appl., 84 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C12Q001-60

ICS C12Q001-26; C12Q001-32; C12Q001-44; G01N033-92

CC 9-2 (Biochemical Methods)

FAN.CNT 1

PATENT NO.

KIND DATE

APPLICATION NO. DATE

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PI WO 2004035816 A1 20040429 WO 2003-JP13258 20031016

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI JP 2002-301327 A 20021016

AB A method and a **reagent** are provided for **enzymically** measuring **cholesterol** in **high d. lipoprotein** in a test sample. The method is characterized in that it comprises reacting the sample with: (i) **cholesterol esterase** and **cholesterol oxidase**, or (ii) **cholesterol esterase**, and an oxidized coenzyme and **cholesterol dehydrogenase**, in an aqueous medium containing (i) a **nonionic surfactant**, a polyanion and albumin, or (ii) a polyoxyethylene alkylamine or a polyoxyethylene alkenylamine, and a polyoxyethylene polycyclic Ph ether sulfate or an anionic bile acid derivative, and then, measuring the formed hydrogen peroxide or a reduced coenzyme.

ST **cholesterol HDL enzymic analysis**

IT **nonionic surfactant** polyanion albumin

IT Bile acids

RL: ARU (Analytical role, unclassified); ANST (Analytical study) (anionic derivative; method and **reagent** for **enzymically** measuring **cholesterol** in **high d. lipoprotein**)

IT Albumins, analysis

RL: ARU (Analytical role, unclassified); ANST (Analytical study) (bovine; method and **reagent** for **enzymically** measuring **cholesterol** in **high d. lipoprotein**)

IT Amines, analysis

RL: ARU (Analytical role, unclassified); ANST (Analytical study) (ethoxylated, alkyl, alkenyl; method and **reagent** for **enzymically** measuring **cholesterol** in **high d. lipoprotein**)

IT **Lipoproteins**

RL: BSU (Biological study, unclassified); BIOL (Biological study) (**high-d.**; method and **reagent** for **enzymically** measuring **cholesterol** in **high d. lipoprotein**)

IT Blood analysis

UV and visible spectroscopy (method and **reagent** for **enzymically** measuring **cholesterol** in **high d. lipoprotein**)

IT **Surfactants** (nonionic; method and **reagent** for **enzymically** measuring **cholesterol** in **high d. lipoprotein**)

IT Coenzymes

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (oxidized; method and **reagent** for **enzymically** measuring **cholesterol** in **high d. lipoprotein**)

IT Anions

(polyvalent; method and reagent for enzymically measuring cholesterol in high d. lipoprotein)

- IT Coenzymes  
RL: ANT (Analyte); CPS (Chemical process); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process)  
(reduced; method and reagent for enzymically measuring cholesterol in high d. lipoprotein)
- IT 9005-49-6, Heparin, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(lithium salt; method and reagent for enzymically measuring cholesterol in high d. lipoprotein)
- IT 57-88-5, Cholesterol, analysis  
RL: ANT (Analyte); ANST (Analytical study)  
(method and reagent for enzymically measuring cholesterol in high d. lipoprotein)
- IT 7722-84-1, Hydrogen peroxide, analysis  
RL: ANT (Analyte); CPS (Chemical process); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process)  
(method and reagent for enzymically measuring cholesterol in high d. lipoprotein)
- IT 9026-00-0, Cholesterol esterase  
9028-76-6, Cholesterol oxidase  
67775-34-2, Cholesterol dehydrogenase  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(method and reagent for enzymically measuring cholesterol in high d. lipoprotein)
- IT 145-42-6, Sodium taurocholate 361-09-1, Sodium cholate 863-57-0, Sodium glycocholate 9000-07-1, Carrageenan 9042-14-2, Dextran, hydrogen sulfate 31017-83-1, Nymeen L 207 51312-42-6, Sodium phosphotungstate 55866-85-8, Newcol 707SF 108741-04-4, Nikkol R1020 148498-91-3, Emulmin L90S 579444-42-1, Newcol OD 420  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(method and reagent for enzymically measuring cholesterol in high d. lipoprotein)

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD

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- (2) Iatron Lab Inc; JP 09-537922 A 1997
- (3) Iatron Lab Inc; WO 9740376 A1 1997 HCAPLUS
- (4) Int Reagents Corp; WO 0052480 A1 2000 HCAPLUS
- (5) Int Reagents Corp; EP 1158299 A1 2000 HCAPLUS
- (6) Int Reagents Corp; JP 2000602641 A 2000
- (7) Kyowa Medex Co Ltd; JP 08-131197 A 1995 HCAPLUS
- (8) Kyowa Medex Co Ltd; US 5691159 A 1995 HCAPLUS
- (9) Kyowa Medex Co Ltd; US 5888755 A 1995 HCAPLUS
- (10) Kyowa Medex Co Ltd; EP 699767 A1 1995 HCAPLUS
- (11) Kyowa Medex Co Ltd; WO 9524502 A1 1995 HCAPLUS
- (12) Toyobo Kabushiki Kaisha; JP 08-116996 A 1996 HCAPLUS

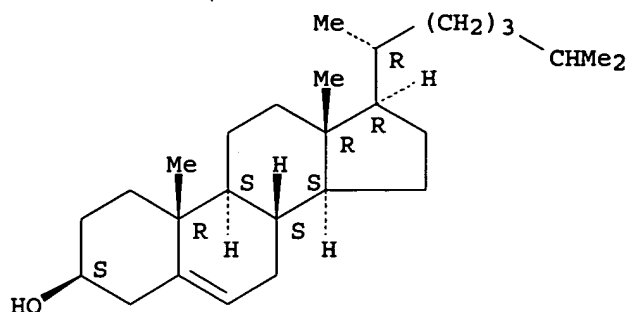
- IT 57-88-5, Cholesterol, analysis  
RL: ANT (Analyte); ANST (Analytical study)  
(method and reagent for enzymically measuring cholesterol in high d. lipoprotein)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)



Absolute stereochemistry.



IT 9026-00-0, Cholesterol esterase  
 9028-76-6, Cholesterol oxidase  
 67775-34-2, Cholesterol dehydrogenase  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (method and reagent for enzymically measuring  
 cholesterol in high d. lipoprotein  
 )

RN 9026-00-0 HCAPLUS  
 CN Esterase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9028-76-6 HCAPLUS  
 CN Oxidase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 67775-34-2 HCAPLUS  
 CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L88 ANSWER 4 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:117289 HCAPLUS

DN 140:160148

ED Entered STN: 13 Feb 2004

TI Reagent for assaying lipids

IN Yamashita, Kazuaki; Shirahase, Yasushi

PA Sysmex Corporation, Japan

SO Eur. Pat. Appl., 15 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM G01N033-92

ICS G01N033-52; C12Q001-60

CC 9-16 (Biochemical Methods)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1388735	A1	20040211	EP 2003-17566	20030807
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	US 2004067545	A1	20040408	US 2003-633518	20030805
	JP 2004089191	A2	20040325	JP 2003-287708	20030806
PRAI	JP 2002-232695	A	20020809		

AB To add effective amount(s) of one antioxidant or more selected from a group consisting, for example, of BHT,  $\alpha$ -tocopherol,  $\beta$ -thiodiglycol, and methionine to a composition containing an **esterase** and **surfactant(s)**. The present invention relates to **reagents** for assaying lipids containing an **esterase**, more particularly, to

**reagents** for assaying neutral fats, total **cholesterols**,  
**high-d. lipoprotein cholesterols**,  
 and/or low-d. **lipoprotein cholesterols** that can be  
 used in the field of clin. chemical  
**reagent** assaying lipid  
 ST **Enzymes**, uses  
 IT RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (Glycolipid-degrading **lipase**; **reagent** for assaying  
 lipids)  
 IT Functional groups  
 (Polyoxyethylene; **reagent** for assaying lipids)  
 IT **Enzymes**, uses  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (Sphingolipid-degrading **lipase**; **reagent** for  
 assaying lipids)  
 IT Polyoxyalkylenes, analysis  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (alkyl ethers; **reagent** for assaying lipids)  
 IT **Surfactants**  
 (amphoteric; **reagent** for assaying lipids)  
 IT **Surfactants**  
 (anionic; **reagent** for assaying lipids)  
 IT **Surfactants**  
 (cationic; **reagent** for assaying lipids)  
 IT **Lipoproteins**  
 RL: ANT (Analyte); ANST (Analytical study)  
 (**high-d.**, **cholesterol**; **reagent**  
 for assaying lipids)  
 IT **Lipoproteins**  
 RL: ANT (Analyte); ANST (Analytical study)  
 (**low-d.**, **cholesterol**; **reagent** for assaying lipids)  
 IT **Lipoproteins**  
 RL: BSU (Biological study, unclassified); BIOL (Biological study)  
 (**low-d.**, reaction inhibitor; **reagent** for assaying lipids)  
 IT **Surfactants**  
 (**nonionic**; **reagent** for assaying lipids)  
 IT Antioxidants  
 Composition  
 Oxidizing agents  
**Surfactants**  
 (**reagent** for assaying lipids)  
 IT Fats and Glyceridic oils, analysis  
 Lipids, analysis  
 RL: ANT (Analyte); ANST (Analytical study)  
 (**reagent** for assaying lipids)  
 IT **Reagents**  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (**reagent** for assaying lipids)  
 IT Carotenes, analysis  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (**reagent** for assaying lipids)  
 IT Transferrins  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (**reagent** for assaying lipids)  
 IT Ubiquinones  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (**reduced**; **reagent** for assaying lipids)  
 IT 57-88-5, **Cholesterol**, analysis  
 RL: ANT (Analyte); ANST (Analytical study)  
 (**reagent** for assaying lipids)  
 IT 50-99-7, D-Glucose, uses 53-59-8, **NAD(P)** 56-65-5,  
 5'-ATP, uses 9001-40-5, Glucose-6-phosphate **dehydrogenase**  
 9001-62-1, **Lipase** 9004-02-8, **Lipoprotein**

lipase 9013-79-0, Esterase 9013-93-8,  
 Phospholipase 9026-00-0, Cholesterol  
 esterase 9030-66-4, Glycerol kinase 67775-34-2,  
 Cholesterol dehydrogenase 173585-07-4, ADP-dependent  
 hexokinase

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (reagent for assaying lipids)

IT 50-81-7, Vitamin C, analysis 59-02-9,  $\alpha$ -Tocopherol 60-24-2  
 63-68-3, Methionine, analysis 69-93-2, Uric acid, analysis 70-18-8,  
 Glutathione, analysis 83-86-3, Phytic acid 111-48-8,  
 $\beta$ -Thiodiglycol 128-37-0, analysis 149-91-7, Gallic acid, analysis  
 635-65-4, Bilirubin, analysis 2937-54-4, Thiotaurine 9002-93-1, Triton  
 X-100 9004-87-9, Polyoxyethylene isooctyl phenyl ether 9016-45-9,  
 Polyoxyethylene nonyl phenyl ether 9063-89-2,  
 Polyoxyethyleneoctylphenylether 23288-49-5, Probucol 25013-16-5,  
 Butylhydroxyanisole 25322-68-3D, alkyl ethers 27073-41-2 72909-34-3,  
 Pyrroloquinoline quinone

RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (reagent for assaying lipids)

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE

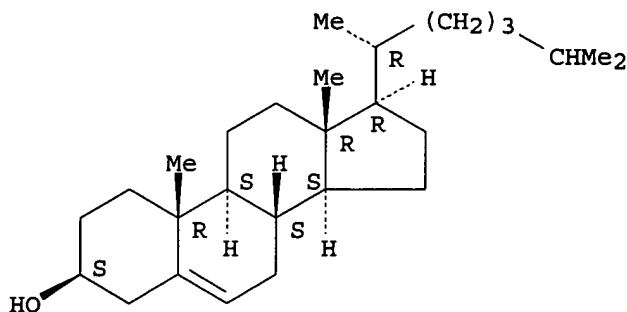
- (1) Genzyme Corp; WO 9522602 A 1995 HCAPLUS
- (2) Internat Reagents Corp; EP 1288306 A 2003 HCAPLUS
- (3) Internat Reagents Corp; EP 1300683 A 2003 HCAPLUS
- (4) Internat Reagents Corp; EP 1361283 A 2003 HCAPLUS
- (5) Leon, L; US 4816411 A 1989 HCAPLUS
- (6) Ochiai, K; WO 0194619 A 2001 HCAPLUS
- (7) Shirahase, Y; WO 0206832 A 2002 HCAPLUS
- (8) Sommerburg, O; JOURNAL OF CHROMATOGRAPHY B: BIOMEDICAL SCIENCES &  
 APPLICATIONS 1997, V695(2), P209 HCAPLUS
- (9) Unilever Plc; WO 0036062 A 2000 HCAPLUS
- (10) Yamashita, K; WO 02064819 A 2002 HCAPLUS

IT 57-88-5, Cholesterol, analysis  
 RL: ANT (Analyte); ANST (Analytical study)  
 (reagent for assaying lipids)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



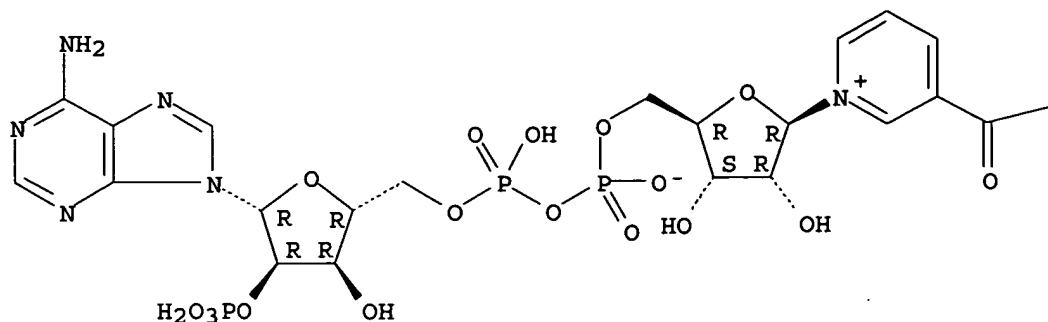
IT 53-59-8, NAD(P) 9004-02-8, Lipoprotein  
 lipase 9026-00-0, Cholesterol esterase  
 67775-34-2, Cholesterol dehydrogenase  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (reagent for assaying lipids)

RN 53-59-8 HCAPLUS

CN Adenosine 5'-(trihydrogen diphosphate), 2'-(dihydrogen phosphate),  
 P' $\rightarrow$ 5'-ester with 3-(aminocarbonyl)-1- $\beta$ -D-  
 ribofuranosylpyridinium, inner salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

—NH<sub>2</sub>

RN 9004-02-8 HCAPLUS  
CN Lipase, lipoprotein (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9026-00-0 HCAPLUS  
CN Esterase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 67775-34-2 HCAPLUS  
CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L88 ANSWER 5 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:735042 HCAPLUS  
DN 138:381426  
ED Entered STN: 27 Sep 2002  
TI Proceeding of methodology of **cholesterol** determination and features of the CDH-UV method  
AU Watazu, Yoshifumi; **Kishi, Koji**; Shirahase, Yasushi; Katayama, Yoshiaki; Okabe, Hiroaki  
CS R&D Division, International Reagent Corp., Kobe, 651-2241, Japan  
SO Rinsho Kensa (2002), 46(7), 805-812  
CODEN: RNKNAT; ISSN: 0485-1420  
PB Igaku Shoin Ltd.  
DT Journal; General Review  
LA Japanese  
CC 9-0 (Biochemical Methods)  
Section cross-reference(s): 6, 7, 13  
AB A review. Proceeding of quantitation methods for total **cholesterol** was described regarding with their principles and features. Th topics also focused on the **enzymic** methods that used **cholesterol esterase**, **cholesterol oxidase** or **cholesterol dehydrogenase**. Among them, clin. application of the UV-spectrometry (CDH-UV) method using **cholesterol dehydrogenase** was especially evaluated. Assay mechanism, stability of colorimetry, quantitation-reliability and

reproducibility of the CDH-UV method were compared with the other method.

ST review method CDH UV spectrometry **cholesterol detn**

IT Blood analysis  
Blood serum  
Human  
UV and visible spectroscopy  
(proceeding of methodol. of **cholesterol** determination and features of CDH-UV method)

IT 57-88-5, **Cholesterol**, analysis  
RL: ANT (Analyte); ANST (Analytical study)  
(proceeding of methodol. of **cholesterol** determination and features of CDH-UV method)

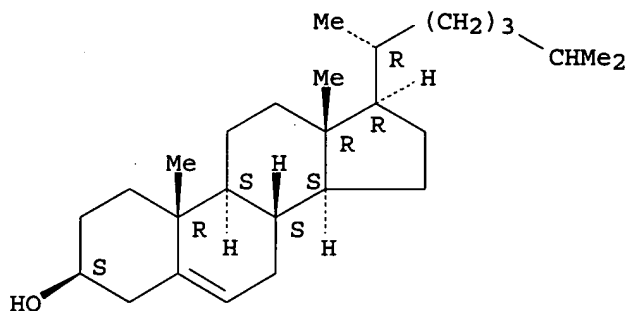
IT 67775-34-2, **Cholesterol dehydrogenase**  
RL: ARG (Analytical reagent use); CAT (Catalyst use); ANST (Analytical study); USES (Uses)  
(proceeding of methodol. of **cholesterol** determination and features of CDH-UV method)

IT 57-88-5, **Cholesterol**, analysis  
RL: ANT (Analyte); ANST (Analytical study)  
(proceeding of methodol. of **cholesterol** determination and features of CDH-UV method)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 67775-34-2, **Cholesterol dehydrogenase**  
RL: ARG (Analytical reagent use); CAT (Catalyst use); ANST (Analytical study); USES (Uses)  
(proceeding of methodol. of **cholesterol** determination and features of CDH-UV method)

RN 67775-34-2 HCAPLUS

CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L88 ANSWER 6 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:677791 HCAPLUS

DN 138:316932

ED Entered STN: 09 Sep 2002

TI Comparison of two direct methods for **HDL cholesterol** measurement with an indirect precipitation method in diabetic patients

AU Saeed, B. O.; Smart, P.; Keeka, G.; Handley, G. H.; Weaver, J. U.

CS Department of Clinical Biochemistry, Queen Elizabeth Hospital, Gateshead, NE9 6SX, UK

SO Diabetes, Nutrition & Metabolism (2002), 15(3), 169-172

CODEN: DNMEEW; ISSN: 0394-3402

PB Editrice Kurtis s.r.l.

DT Journal

LA English

CC 9-2 (Biochemical Methods)

AB The conventional precipitation method for measuring **HDL cholesterol** involves a centrifugation step which prevents automation of the method. Several methods were introduced for measuring **HDL cholesterol** without the need for a centrifugation step. These new methods are therefore automatable and can process a large number of samples in a short period of time. Measuring **HDL cholesterol** is an important aspect of management of diabetes mellitus. In this study, the authors compared 2 direct methods for measuring **HDL cholesterol** with a conventional precipitation technique in 63 patients with either Type 1 or Type 2 diabetes mellitus. Both direct methods showed acceptable precision but they both showed pos. bias compared to the conventional precipitation method. The greatest degree of bias occurs at low **HDL cholesterol** levels, which are more important for Type 2 patients. Such differences may affect cardiovascular risk calcn. in patients with diabetes. Further studies are required to investigate if a correction factor needs to be introduced when these direct assays are used to measure **HDL cholesterol** in patients with Type 2 diabetes mellitus.

ST **HDL cholesterol** blood analysis antibody ionic strength diabetes mellitus

IT Antibodies and Immunoglobulins  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (anti-human apo-B; direct **enzymic HDL cholesterol** assays removing **lipoproteins** by anti-apo B-antibody or selective ionic strength)

IT Blood analysis  
 Ionic strength  
 (direct **enzymic HDL cholesterol** assays removing **lipoproteins** by anti-apo B-antibody or selective ionic strength)

IT **Lipoproteins**  
 RL: REM (Removal or disposal); PROC (Process)  
 (direct **enzymic HDL cholesterol** assays removing **lipoproteins** by anti-apo B-antibody or selective ionic strength)

IT Diabetes mellitus  
 Human  
 (direct **enzymic HDL cholesterol** assays removing **lipoproteins** by anti-apo B-antibody or selective ionic strength in diabetic patients)

IT **Lipoproteins**  
 RL: ANT (Analyte); ANST (Analytical study)  
 (high-d.; direct **enzymic HDL cholesterol** assays removing **lipoproteins** by anti-apo B-antibody or selective ionic strength)

IT 57-88-5, Cholesterol, analysis  
 RL: ANT (Analyte); ANST (Analytical study)  
 (direct **enzymic HDL cholesterol** assays removing **lipoproteins** by anti-apo B-antibody or selective ionic strength)

IT 9026-00-0, Cholesterol esterase  
 9028-76-6, Cholesterol oxidase  
 RL: ARG (Analytical reagent use); CAT (Catalyst use); ANST (Analytical study); USES (Uses)  
 (direct **enzymic HDL cholesterol** assays removing **lipoproteins** by anti-apo B-antibody or selective ionic strength)

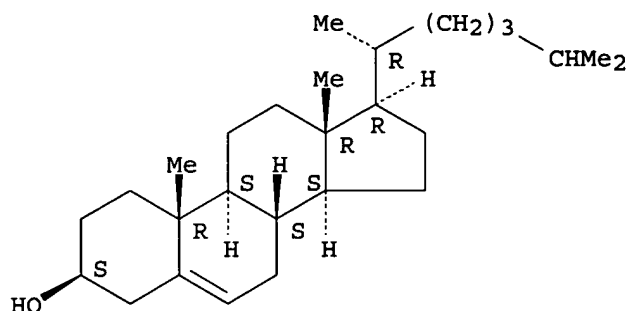
RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD

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 (7) Laakso, M; Circulation 1993, V88, P1421 MEDLINE  
 (8) NIH; J Am Med Assoc 1993, V269, P505  
 (9) Nauk, M; Clin Chem 1996, V42, P424  
 (10) Simo, J; Clin Chem 1998, V44, P1233 HCAPLUS  
 (11) Skinner, E; Curr Opin Lipidol 1994, V5, P241 HCAPLUS  
 (12) Sugiuchi, H; Clin Chem 1995, V41, P717 HCAPLUS  
 (13) Warnick, G; Clin Chem 1995, V41, P1427 HCAPLUS  
 (14) Wood, D; Heart 1998, V80(Suppl 2), PS1  
 IT 57-88-5, Cholesterol, analysis  
 RL: ANT (Analyte); ANST (Analytical study)  
 (direct enzymic HDL cholesterol assays  
 removing lipoproteins by anti-apo B-antibody or selective  
 ionic strength)  
 RN 57-88-5 HCAPLUS  
 CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 9026-00-0, Cholesterol esterase  
 9028-76-6, Cholesterol oxidase  
 RL: ARG (Analytical reagent use); CAT (Catalyst use); ANST (Analytical study); USES (Uses)  
 (direct enzymic HDL cholesterol assays  
 removing lipoproteins by anti-apo B-antibody or selective  
 ionic strength)  
 RN 9026-00-0 HCAPLUS  
 CN Esterase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9028-76-6 HCAPLUS  
 CN Oxidase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L88 ANSWER 7 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2002:538415 HCAPLUS  
 DN 137:106077  
 ED Entered STN: 19 Jul 2002  
 TI Method for quantitating **cholesterol** in **lipoprotein**  
 IN Tadano, Toshio; Funada, Tadashi  
 PA NOF Corporation, Japan  
 SO Jpn. Kokai Tokkyo Koho, 12 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM G01N033-92  
 ICS C12Q001-26; C12Q001-44; C12Q001-60

CC 9-16 (Biochemical Methods)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002202314	A2	20020719	JP 2000-400509	20001228
PRAI	JP 2000-400509		20001228		

AB A convenient method is provided for directly quantitating **cholesterol** in each **lipoprotein** in a sample without performing a fractionation operation to give the measurement values with excellent reliability. The method is excellent in the correlation, especially to the standard CDC method, and in the simplicity with the composition system of additive agents, comparing with the conventional techniques. In this method, the quantity of **cholesterol** in a sample containing more than one kind **lipoprotein** among chylomicron, **high d** . **lipoprotein (HDL)**, low d. **lipoprotein (HDL)**, and very low d. **lipoprotein (VLDL)**, is directly and selectively measured using **enzymes** (e.g, **cholesterol esterase** and **cholesterol oxidase** or **cholesterol dehydrogenase**). The method is characterized by using a phospholipid or a phospholipid-like group-containing compound in the assay mixture

ST **cholesterol lipoprotein enzymic analysis**  
additive phospholipid

IT **Surfactants**  
(anionic; method for quantitating **cholesterol** in **lipoprotein**)

IT Polyoxyalkylenes, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(block derivative with polyethyleneoxide; method for quantitating **cholesterol** in **lipoprotein**)

IT Polyoxyalkylenes, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(block derivative with polypropylene oxide; method for quantitating **cholesterol** in **lipoprotein**)

IT **Surfactants**  
(cationic; method for quantitating **cholesterol** in **lipoprotein**)

IT **Enzymes**, uses  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(chemical modified; method for quantitating **cholesterol** in **lipoprotein**)

IT Polyoxyalkylenes, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(derivative; method for quantitating **cholesterol** in **lipoprotein**)

IT **Lipoproteins**  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(**high-d.**; method for quantitating **cholesterol** in **lipoprotein**)

IT **Lipoproteins**  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(**low-d.**; method for quantitating **cholesterol** in **lipoprotein**)

IT Blood analysis  
Chylomicrons  
Composition  
Human  
Standardization  
(method for quantitating **cholesterol** in **lipoprotein**)

IT **Enzymes**, uses  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)



(method for quantitating cholesterol in lipoprotein  
)

IT Carbohydrates, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(method for quantitating cholesterol in lipoprotein  
)

IT Phosphatidylserines  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(method for quantitating cholesterol in lipoprotein  
)

IT Phospholipids, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(method for quantitating cholesterol in lipoprotein  
)

IT Lipoproteins  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(method for quantitating cholesterol in lipoprotein  
)

IT Surfactants  
(nonionic; method for quantitating cholesterol in  
lipoprotein)

IT Functional groups  
(phosphorylcholine; method for quantitating cholesterol in  
lipoprotein)

IT Functional groups  
(phosphorylinositol; method for quantitating cholesterol in  
lipoprotein)

IT Functional groups  
(phosphorylserine; method for quantitating cholesterol in  
lipoprotein)

IT Solubilizers  
(protein; method for quantitating cholesterol in  
lipoprotein)

IT Coenzymes  
RL: ANT (Analyte); CPS (Chemical process); PEP (Physical, engineering or  
chemical process); ANST (Analytical study); PROC (Process)  
(reduced; method for quantitating cholesterol in  
lipoprotein)

IT Metals, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(salt; method for quantitating cholesterol in  
lipoprotein)

IT Lipoproteins  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(very-low-d.; method for quantitating cholesterol in  
lipoprotein)

IT 57-88-5, Cholesterol, analysis  
RL: ANT (Analyte); ANST (Analytical study)  
(method for quantitating cholesterol in lipoprotein  
)

IT 7722-84-1, Hydrogen peroxide, analysis  
RL: ANT (Analyte); CPS (Chemical process); PEP (Physical, engineering or  
chemical process); ANST (Analytical study); PROC (Process)  
(method for quantitating cholesterol in lipoprotein  
)

IT 9026-00-0, Esterase, cholesterol  
9028-76-6, Cholesterol oxidase  
67775-34-2, Cholesterol dehydrogenase  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(method for quantitating cholesterol in lipoprotein  
)

IT 9004-81-3, Polyoxyethylenemonolaurate 25322-68-3D, Polyethyleneoxide,  
block derivative with polypropylene oxide 25322-68-3D, Polyethyleneoxide,

derivative 25322-69-4D, Polypropylene oxide, block derivative with  
polyethyleneoxide 25322-69-4D, Polypropylene oxide, derivative 31017-83-1,  
Polyoxyethylenelaurylamine 68247-19-8, Inositol phosphate  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(method for quantitating **cholesterol** in **lipoprotein**)

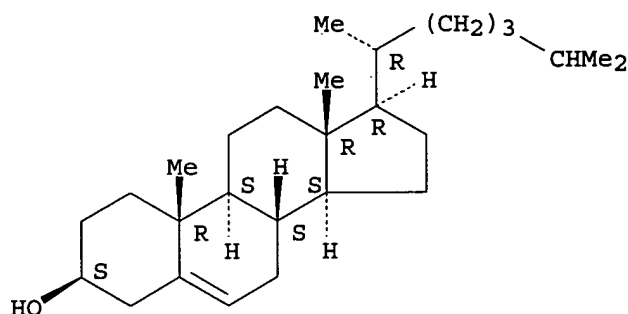
IT 67881-98-5, 2-(Methacryloyloxy)ethylphosphoryl choline  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(method for quantitating **cholesterol** in **lipoprotein**)

IT 57-88-5, **Cholesterol**, analysis  
RL: ANT (Analyte); ANST (Analytical study)  
(method for quantitating **cholesterol** in **lipoprotein**)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 9026-00-0, **Esterase, cholesterol**  
9028-76-6, **Cholesterol oxidase**  
67775-34-2, **Cholesterol dehydrogenase**  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(method for quantitating **cholesterol** in **lipoprotein**)

RN 9026-00-0 HCAPLUS

CN Esterase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9028-76-6 HCAPLUS

CN Oxidase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 67775-34-2 HCAPLUS

CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L88 ANSWER 8 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:331454 HCAPLUS

DN 136:382485

ED Entered STN: 03 May 2002

TI Highly sensitive **cholesterol** assay with **enzymatic**  
cycling applied to measurement of remnant **lipoprotein-**  
**cholesterol** in serum

AU Kishi, Koji; Ochiai, Koji; Ohta, Yohsuke; Uemura,  
Yahiro; Kanatani, Kazushi; Nakajima, Katsuyuki; Nakamura, Masakazu

CS International Reagents Corporation, Kobe, 651-2241, Japan

SO Clinical Chemistry (Washington, DC, United States) (2002), 48(5), 737-741  
CODEN: CLCHAU; ISSN: 0009-9147

PB American Association for Clinical Chemistry  
 DT Journal  
 LA English  
 CC 9-16 (Biochemical Methods)  
 Section cross-reference(s): 14  
 AB Background: Remnant **lipoprotein-cholesterol** (RLP-C) concns. in sera of healthy individuals are very low (0.080-0.437 mmol/L), making conventional **cholesterol** methods poorly suited to this purpose. We have developed a highly sensitive **cholesterol** assay (CD method) and applied it to the RLP-C assay. Methods: The CD shuttled **cholesterol** reversibly between reduced and oxidized forms in the presence of **thio-NAD** and NADH. The production rate of thio-NADH correlated with the **cholesterol** concentration and was measured by the absorbance at 404/500 nm. This CD method was combined with an immunoaffinity separation procedure with specific monoclonal antibodies to **apolipoprotein** (apo) A1 and apo B-100 and used for RLP-C assay. Results were compared with a RLP-C method that uses **cholesterol oxidase**, **peroxidase**, and chromogenic substrate. Results: The CD method could detect  $0.10 \pm 10^{-3}$  mmol/L **cholesterol** and was at least 5 times more sensitive than the conventional **enzymic** method. Within- and between-day imprecision (as CVs) of the RLP-C assay with the CD method was <4%. Regression anal. of RLP-C assays with the new (y) and conventional (x) **cholesterol** methods yielded:  $y = 1.02x - 0.008$  mmol/L ( $Sy/x = 0.0065$  mmol/L;  $r = 0.997$ ;  $n = 297$ ). Conclusions: Serum RLP-C can be measured by the CD method. The CD method may be useful for other assays that require sensitive **cholesterol** measurements in biol. materials.

ST **cholesterol** assay **enzymic** cycling remnant lipoprotein serum  
 IT **Apolipoproteins**  
 RL: BSU (Biological study, unclassified); BIOL (Biological study) (A-I; highly sensitive **cholesterol** assay with **enzymic** cycling applied to measurement of remnant **lipoprotein-cholesterol** in serum)  
 IT **Apolipoproteins**  
 RL: BSU (Biological study, unclassified); BIOL (Biological study) (B-100; highly sensitive **cholesterol** assay with **enzymic** cycling applied to measurement of remnant **lipoprotein-cholesterol** in serum)  
 IT Blood serum  
 Regression analysis  
 Sample preparation  
 Statistical analysis  
 (highly sensitive **cholesterol** assay with **enzymic** cycling applied to measurement of remnant **lipoprotein-cholesterol** in serum)  
 IT **Lipoproteins**  
 RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
 (highly sensitive **cholesterol** assay with **enzymic** cycling applied to measurement of remnant **lipoprotein-cholesterol** in serum)  
 IT Antibodies and Immunoglobulins  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study) (monoclonal; highly sensitive **cholesterol** assay with **enzymic** cycling applied to measurement of remnant **lipoprotein-cholesterol** in serum)  
 IT 57-88-5, **Cholesterol**, analysis  
 RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
 (highly sensitive **cholesterol** assay with **enzymic** cycling applied to measurement of remnant **lipoprotein-**

cholesterol in serum)

IT 9003-99-0, Peroxidase 9028-76-6, Cholesterol oxidase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(highly sensitive cholesterol assay with enzymic cycling applied to measurement of remnant lipoprotein-cholesterol in serum)

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

- (1) Akiba, T; JP 9018064 1990
- (2) Allain, C; Clin Chem 1974, V20, P470 HCAPLUS
- (3) Ferguson, W; Anal Biochem 1980, V104, P300 HCAPLUS
- (4) Hopwood, D; J Gen Microbiol 1983, V129, P2257 HCAPLUS
- (5) Horinouchi, S; Appl Environ Microbiol 1991, V57, P1386 HCAPLUS
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- (8) Leary, E; Clin Chem 1998, V44, P2490 HCAPLUS
- (9) Nakajima, K; Clin Chim Acta 1993, V223, P53 HCAPLUS
- (10) Nakajima, K; J Clin Ligand Assay 1996, V19, P177
- (11) Roeschlau, P; J Clin Chem Biochem 1974, V12, P403 HCAPLUS
- (12) Takahashi, M; Clin Chem 1994, V40, P817 HCAPLUS
- (13) Uwajima, T; Agric Biol Chem 1975, V39, P1511 HCAPLUS

IT 57-88-5, Cholesterol, analysis

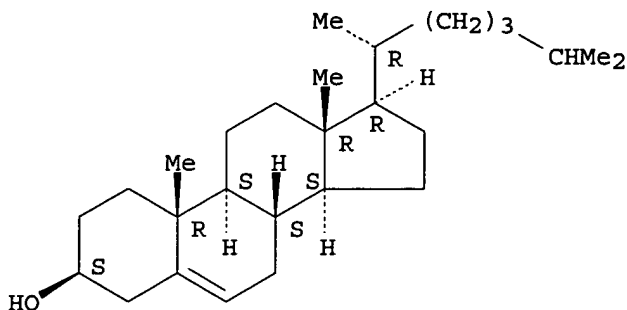
RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(highly sensitive cholesterol assay with enzymic cycling applied to measurement of remnant lipoprotein-cholesterol in serum)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 9028-76-6, Cholesterol oxidase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(highly sensitive cholesterol assay with enzymic cycling applied to measurement of remnant lipoprotein-cholesterol in serum)

RN 9028-76-6 HCAPLUS

CN Oxidase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L88 ANSWER 9 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:910006 HCAPLUS

DN 136:34271

ED Entered STN: 18 Dec 2001

TI HDL sub-fraction analytical method

IN Kishi, Hiroshi; Kadoyama, Isao; Ochiai, Koji  
 PA International Reagents Corporation, Japan  
 SO Jpn. Kokai Tokkyo Koho, 10 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C12Q001-60  
 ICS C12Q001-26; C12Q001-28; C12Q001-32; C12Q001-34; C12Q001-44;  
 G01N033-92

CC 9-2 (Biochemical Methods)  
 Section cross-reference(s): 14

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001346598	A2	20011218	JP 2000-171135	20000607
PRAI	JP 2000-171135		20000607		

AB A convenient **enzymic** method using a general purpose automated analyzer is provided for fractionating a component (e.g., **cholesterol**) in **high d. lipoprotein** sub-fractions (HDL2 and HDL3) in a biol. sample (e.g., blood) without a centrifugation operation or else and accurately measuring it. A component in HLP3, **cholesterol** (HLP3-C) in particular, is measured with a **cholesterol oxidase** reaction upon selectively reacting a specific **enzyme** (e.g., **lipoprotein lipase** (LPL), **cholesterol esterase** (CE)) to the component in the presence of a **nonionic surfactant** with the HLB value higher than 17. The HDL2-C value is obtained by subtracting the HLP3-C value from the total HLD-C value. The method is useful for the clin. anal. of diseases related to **lipoprotein** such as hyperlipidemia.

ST **cholesterol lipoprotein HDL2 HDL3 enzymic**  
 analysis

IT Blood analysis

Fractionation

Hydrophile-lipophile balance value

Test kits

pH

(HDL sub-fraction anal. method)

IT **Enzymes**, uses

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

(HDL sub-fraction anal. method)

IT Nonion

(K-230; HDL sub-fraction anal. method)

IT Analytical apparatus

(automated; HDL sub-fraction anal. method)

IT **Lipoproteins**

RL: ANT (Analyte); BCP (Biochemical process); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
 (high-d., 2; HDL sub-fraction anal. method)

IT **Lipoproteins**

RL: ANT (Analyte); BCP (Biochemical process); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
 (high-d., 3; HDL sub-fraction anal. method)

IT **Lipoproteins**

RL: ANT (Analyte); BCP (Biochemical process); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
 (high-d.; HDL sub-fraction anal. method)

IT Lipids, analysis

RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(hyperlipidemia; HDL sub-fraction anal. method)

IT **Surfactants**  
 (nonionic; HDL sub-fraction anal. method)

IT 7722-84-1, Hydrogen peroxide, analysis  
 RL: ANT (Analyte); BCP (Biochemical process); ANST (Analytical study);  
 BIOL (Biological study); PROC (Process)  
 (HDL sub-fraction anal. method)

IT 57-88-5, Cholesterol, analysis  
 RL: ANT (Analyte); BCP (Biochemical process); DGN (Diagnostic  
 use); ANST (Analytical study); BIOL (Biological study); PROC  
 (Process); USES (Uses)  
 (HDL sub-fraction anal. method)

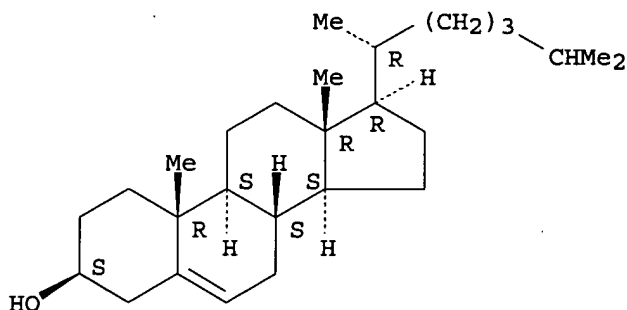
IT 9003-99-0, Peroxidase 9004-02-8, Lipoprotein  
 lipase 9026-00-0, Esterase,  
 cholesterol 9028-76-6, Oxidase,  
 cholesterol  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (HDL sub-fraction anal. method)

IT 9004-95-9, Nikkol BC 40TX 9004-98-2, Brij98  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (HDL sub-fraction anal. method)

IT 57-88-5, Cholesterol, analysis  
 RL: ANT (Analyte); BCP (Biochemical process); DGN (Diagnostic  
 use); ANST (Analytical study); BIOL (Biological study); PROC  
 (Process); USES (Uses)  
 (HDL sub-fraction anal. method)

RN 57-88-5 HCAPLUS  
 CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 9004-02-8, Lipoprotein lipase  
 9026-00-0, Esterase, cholesterol  
 9028-76-6, Oxidase, cholesterol  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (HDL sub-fraction anal. method)

RN 9004-02-8 HCAPLUS  
 CN Lipase, lipoprotein (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9026-00-0 HCAPLUS  
 CN Esterase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9028-76-6 HCAPLUS  
 CN Oxidase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

DN 135:149624  
 ED Entered STN: 17 Aug 2001  
 TI Method for measuring lipid components and method for diagnosing kidney failure  
 IN Hotta, Osamu; Shirahase, Yasushi; Hiura, Hisahide  
 PA **International Reagents Corp., Japan**  
 SO PCT Int. Appl., 33 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA Japanese  
 IC ICM G01N033-92  
 ICS G01N033-493  
 CC 9-16 (Biochemical Methods)  
 Section cross-reference(s): 14

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001059462	A1	20010816	WO 2001-JP847	20010207
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 2001032234	A5	20010820	AU 2001-32234	20010207
	EP 1255114	A1	20021106	EP 2001-904327	20010207
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	US 2003017523	A1	20030123	US 2002-203255	20020807
PRAI	JP 2000-30980	A	20000208		
	JP 2000-212431	A	20000713		
	WO 2001-JP847	W	20010207		
AB	A method is provided for measuring lipid components (e.g., neutral fat, lipid peroxide, sterol, fatty acid, fatty acid salt, fatty acid ester, fatty alc., fatty aldehyde, glycolipid, sphingolipid, prostaglandin, carotenoid) contained in urine as a means to diagnose kidney failure. The method comprises the use of a <b>surfactant</b> (e.g., <b>nonionic surfactant</b> , cationic <b>surfactant</b> , anionic <b>surfactant</b> , zwitterionic <b>surfactant</b> , glycoside) in an amount sufficient for solubilizing insol. fats in the urine sample, and the use of an <b>enzyme</b> acting on the lipid components. A <b>reagent</b> used for this method is provided. A convenient method is also provided for diagnosing kidney failure by measuring lipid components in combination with the measurement of urinary <b>lipoproteins</b> and/or urinary <b>apolipoproteins</b> , and the measurement of surface antigens of leukocytes contained in the urine sample.				
ST	lipid component urine analysis kidney failure				
IT	Kidney, disease (IgA nephropathy; method for measuring lipid components and method for diagnosing kidney failure)				
IT	<b>Surfactants</b> (anionic; method for measuring lipid components and method for diagnosing kidney failure)				
IT	<b>Surfactants</b> (cationic; method for measuring lipid components and method for diagnosing kidney failure)				
IT	Kidney, disease (diabetic nephropathy; method for measuring lipid components and method for diagnosing kidney failure)				
IT	Fatty acids, analysis				

RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
 (esters; method for measuring lipid components and method for diagnosing kidney failure)

IT Kidney, disease  
 (failure, chronic; method for measuring lipid components and method for diagnosing kidney failure)

IT Kidney, disease  
 (failure; method for measuring lipid components and method for diagnosing kidney failure)

IT Alcohols, analysis  
 Aldehydes, analysis  
 RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
 (fatty; method for measuring lipid components and method for diagnosing kidney failure)

IT Kidney, disease  
 (focal glomerulosclerosis; method for measuring lipid components and method for diagnosing kidney failure)

IT Kidney, disease  
 (glomerulonephritis, rapidly progressive: mesangial proliferative; method for measuring lipid components and method for diagnosing kidney failure)

IT Peroxides, analysis  
 RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
 (lipid; method for measuring lipid components and method for diagnosing kidney failure)

IT Kidney, disease  
 (membranous glomerulonephritis; method for measuring lipid components and method for diagnosing kidney failure)

IT Biomarkers (biological responses)  
 Decomposition  
 Dehydrogenation  
 Diagnosis  
 Leukocyte  
 Oxidation  
 Solubilization  
 Test kits  
 Urine analysis  
 (method for measuring lipid components and method for diagnosing kidney failure)

IT **Apolipoproteins**  
 Carotenes, analysis  
 Fatty acids, analysis  
 Glycolipids  
 Glycosides  
 Lipids, analysis  
**Lipoproteins**  
 Prostaglandins  
 Sphingolipids  
 Sterols  
 RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
 (method for measuring lipid components and method for diagnosing kidney failure)

IT **Enzymes, uses**  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (method for measuring lipid components and method for diagnosing kidney failure)

IT Kidney, disease  
 (minimal change glomerulonephritis; method for measuring lipid components and method for diagnosing kidney failure)



IT Kidney, disease  
(nephrosclerosis; method for measuring lipid components and method for diagnosing kidney failure)

IT Fats and Glyceridic oils, analysis  
RL: ANT (Analyte); PEP (Physical, engineering or chemical process); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(neutral; insol.; drop; body; particle; method for measuring lipid components and method for diagnosing kidney failure)

IT **Surfactants**  
(nonionic; method for measuring lipid components and method for diagnosing kidney failure)

IT Lipids, analysis  
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(peroxides; method for measuring lipid components and method for diagnosing kidney failure)

IT Fatty acids, analysis  
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(salts; method for measuring lipid components and method for diagnosing kidney failure)

IT Antigens  
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(surface; method for measuring lipid components and method for diagnosing kidney failure)

IT **Surfactants**  
(zwitterionic; method for measuring lipid components and method for diagnosing kidney failure)

IT 57-88-5, Cholesterol, analysis  
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(method for measuring lipid components and method for diagnosing kidney failure)

IT 9001-84-7, phospholipase A2 9026-00-0, Cholesterol esterase 9043-29-2, phospholipase A1 67775-34-2, Cholesterol dehydrogenase  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(method for measuring lipid components and method for diagnosing kidney failure)

IT 9002-93-1, triton x-100  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(method for measuring lipid components and method for diagnosing kidney failure)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

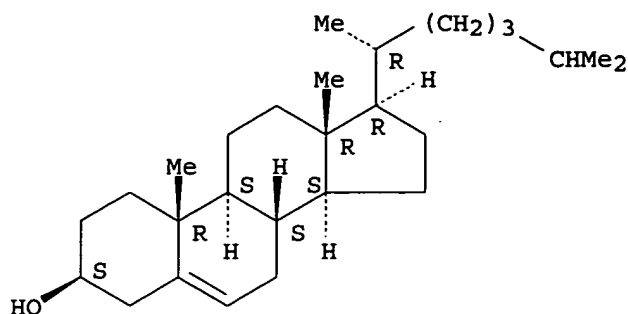
- (1) Anon; Food Chem Toxic 1991, V29(3), P211
- (2) Anon; Kensa to Gijutsu 1995, V23(6), P446
- (3) Anon; Kensa to Gijutsu 1998, V26(5), P441
- (4) Anon; Sokaigo (Issue of the General Meeting) 1999, V47, P73
- (5) Toyobo Co Ltd; JP 11103888 A 1999 HCAPLUS

IT 57-88-5, Cholesterol, analysis  
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(method for measuring lipid components and method for diagnosing kidney failure)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 9026-00-0, Cholesterol esterase  
 67775-34-2, Cholesterol dehydrogenase  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (method for measuring lipid components and method for diagnosing kidney failure)  
 RN 9026-00-0 HCAPLUS  
 CN Esterase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*  
 RN 67775-34-2 HCAPLUS  
 CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L88 ANSWER 11 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2001:336519 HCAPLUS  
 DN 134:350257  
 ED Entered STN: 11 May 2001  
 TI **Enzymic method for measuring lipoprotein cholesterol**  
 IN Sawayanagi, Toyoharu; Koyama, Tamami; Sato, Hajime  
 PA Showa Denko K. K., Japan  
 SO Jpn. Kokai Tokkyo Koho, 18 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM G01N033-92  
 ICS C12N009-02; C12N009-04; C12N009-16; C12Q001-26; C12Q001-28;  
 C12Q001-32; C12Q001-46; C12Q001-60  
 CC 9-2 (Biochemical Methods)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001124780	A2	20010511	JP 1999-307329	19991028
PRAI	JP 1999-307329		19991028		

AB A highly accurate and widely applicable **enzymic** method is provided for measuring a **lipoprotein cholesterol** (e.g., **HDL cholesterol**, **LDL cholesterol**) in a sample containing **lipoproteins** (e.g., blood serum, plasma) without having an influence by a blood component possessing a surface active function. Furthermore, the method does not generate any factors interfering with an optical measurement. In this method, a **lipoprotein cholesterol** is measured by quantitating a compound consumed or formed in the **enzymic** reactions upon reacting **enzymes** (e.g., **cholesterol esterase**, **cholesterol oxidase**, **cholesterol dehydrogenase**) with a sample containing **lipoproteins**. The method comprises a first step for selectively reacting with **HDL cholesterol** or **cholesterols** other than **LDL**

cholesterol using a particular polymer (mol. weight: 5,000-500,000 dalton, concentration: 0.001-1%) and a first **surfactant** (e.g., bile acid derivative, zwitterionic **surfactant**), and a second step for selectively reacting with LDL **cholesterol** using a second **surfactant** (e.g., nonionic **surfactant**).

- ST **lipoprotein cholesterol HDL LDL**  
**enzymic analysis; cholesterol esterase**  
**oxidase hydrogenase surfactant polymer**
- IT Alkenes, analysis  
 RL: ARU (Analytical role, unclassified); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent)  
 (1-; copolymer with maleic acid, acrylic acid, methacrylic acid;  
**enzymic method for measuring lipoprotein**  
**cholesterol**)
- IT Bile acids  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (derivative; **enzymic method for measuring lipoprotein**  
**cholesterol**)
- IT Blood analysis  
 Blood plasma  
 Blood serum  
 Concentration (condition)  
 Hydrophile-lipophile balance value  
 Molecular weight  
**Surfactants**  
 pH  
 (**enzymic method for measuring lipoprotein**  
**cholesterol**)
- IT **Lipoproteins**  
 RL: AMX (Analytical matrix); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process)  
 (**enzymic method for measuring lipoprotein**  
**cholesterol**)
- IT **Enzymes, uses**  
**Reagents**  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (**enzymic method for measuring lipoprotein**  
**cholesterol**)
- IT Polymers, analysis  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (**enzymic method for measuring lipoprotein**  
**cholesterol**)
- IT **Lipoproteins**  
 RL: AMX (Analytical matrix); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process)  
 (high-d.; **enzymic method for measuring**  
**lipoprotein cholesterol**)
- IT **Lipoproteins**  
 RL: AMX (Analytical matrix); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process)  
 (low-d.; **enzymic method for measuring lipoprotein**  
**cholesterol**)
- IT **Surfactants**  
 (nonionic; **enzymic method for measuring**  
**lipoprotein cholesterol**)
- IT **Surfactants**  
 (zwitterionic; **enzymic method for measuring**  
**lipoprotein cholesterol**)
- IT 57-88-5, Cholesterol, analysis  
 RL: ANT (Analyte); ANST (Analytical study)  
 (**enzymic method for measuring lipoprotein**  
**cholesterol**)
- IT 9026-00-0, Cholesterol esterase

9028-76-6, Cholesterol oxidase

67775-34-2, Cholesterol dehydrogenase

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(enzymic method for measuring lipoprotein cholesterol)

IT 361-09-1, Sodium cholate 9002-92-0, Emulgen 108 9004-95-9 9004-98-2, Emulgen 408 9016-45-9, Emulgen 903

RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(enzymic method for measuring lipoprotein cholesterol)

IT 79-10-7D, Acrylic acid, copolymer with 1-olefin 110-16-7D, Maleic acid, copolymer with 1-olefin 18358-13-9D, Methacrylate, copolymer with 1-olefin, analysis

RL: ARU (Analytical role, unclassified); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent)  
(enzymic method for measuring lipoprotein cholesterol)

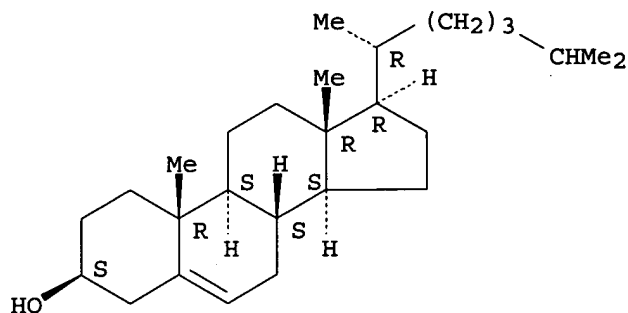
IT 57-88-5, Cholesterol, analysis

RL: ANT (Analyte); ANST (Analytical study)  
(enzymic method for measuring lipoprotein cholesterol)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 9026-00-0, Cholesterol esterase

9028-76-6, Cholesterol oxidase

67775-34-2, Cholesterol dehydrogenase

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(enzymic method for measuring lipoprotein cholesterol)

RN 9026-00-0 HCAPLUS

CN Esterase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9028-76-6 HCAPLUS

CN Oxidase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 67775-34-2 HCAPLUS

CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L88 ANSWER 12 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:833008 HCAPLUS

DN 133:360592

ED Entered STN: 29 Nov 2000

TI Method and reagent for measuring lipoprotein

**cholesterol by enzymic analysis**

IN Sato, Hajime; Koyama, Tamami; Sawayanagi, Toyoji

PA Showa Denko K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C12Q001-60

ICS C12Q001-26; C12Q001-44; G01N033-92

CC 9-2 (Biochemical Methods)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000325097	A2	20001128	JP 1999-142450	19990521
PRAI	JP 1999-142450		19990521		

AB A method and a reagent are provided for conveniently and accurately measuring LDL cholesterol and HDL cholesterol in a sample (e.g., serum, plasma) containing lipoproteins according to the need. The method comprises a process for determining HDL cholesterol by measuring a substance consumed or a substance formed upon reacting enzymes (cholesterol esterase and cholesterol oxidase) and a first surfactant (e.g., bile acid derivative, zwitterionic surfactant) with HDL cholesterol in a sample containing lipoproteins, and a process for determining LDL cholesterol by measuring a substance consumed or a substance formed upon reacting enzymes and a second surfactant (e.g., nonionic surfactant with polyoxyethylene chain) with LDL cholesterol. LDL- and HDL-cholesterol values with blood samples obtained by this method exhibited a high correlation with the values obtained by a reaction HPLC method.

ST lipoprotein cholesterol LDL HDL  
surfactant esterase

IT Bile acids

RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(derivative; method and reagent for measuring lipoprotein  
cholesterol by enzymic anal.)

IT Lipoproteins

RL: AMX (Analytical matrix); BSU (Biological study, unclassified); ANST  
(Analytical study); BIOL (Biological study)  
(high-d.; method and reagent for  
measuring lipoprotein cholesterol by  
enzymic anal.)

IT Lipoproteins

RL: AMX (Analytical matrix); BSU (Biological study, unclassified); ANST  
(Analytical study); BIOL (Biological study)  
(low-d.; method and reagent for measuring lipoprotein  
cholesterol by enzymic anal.)

IT Blood analysis

Hydrophile-lipophile balance value

Surfactants

(method and reagent for measuring lipoprotein  
cholesterol by enzymic anal.)

IT Lipoproteins

RL: AMX (Analytical matrix); BSU (Biological study, unclassified); ANST  
(Analytical study); BIOL (Biological study)  
(method and reagent for measuring lipoprotein  
cholesterol by enzymic anal.)

IT Enzymes, uses

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(method and reagent for measuring lipoprotein  
cholesterol by enzymic anal.)

IT **Surfactants**  
(nonionic; method and reagent for measuring lipoprotein cholesterol by enzymic anal.)

IT **Surfactants**  
(zwitterionic; method and reagent for measuring lipoprotein cholesterol by enzymic anal.)

IT 9002-92-0, Emulgen 104P  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(Emulgen 108; method and reagent for measuring lipoprotein cholesterol by enzymic anal.)

IT 57-88-5, Cholesterol, analysis  
RL: ANT (Analyte); ANST (Analytical study)  
(method and reagent for measuring lipoprotein cholesterol by enzymic anal.)

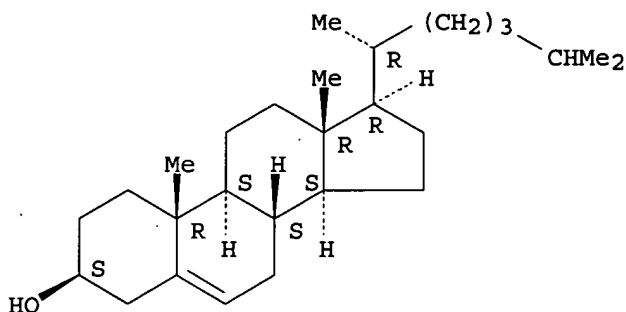
IT 83-07-8, 4-Aminoantipyrine 9003-99-0, Peroxidase  
9026-00-0, Esterase, cholesterol  
9028-76-6, Oxidase, cholesterol 96497-76-6, TOOS  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(method and reagent for measuring lipoprotein cholesterol by enzymic anal.)

IT 9004-98-2, Emulgen 408 9016-45-9, Emulgen 903 75621-03-3, CHAPS  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(method and reagent for measuring lipoprotein cholesterol by enzymic anal.)

IT 57-88-5, Cholesterol, analysis  
RL: ANT (Analyte); ANST (Analytical study)  
(method and reagent for measuring lipoprotein cholesterol by enzymic anal.)

RN 57-88-5 HCAPLUS  
CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 9026-00-0, Esterase, cholesterol  
9028-76-6, Oxidase, cholesterol  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(method and reagent for measuring lipoprotein cholesterol by enzymic anal.)

RN 9026-00-0 HCAPLUS  
CN Esterase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9028-76-6 HCAPLUS  
CN Oxidase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

DN 133:190189  
 ED Entered STN: 10 Sep 2000  
 TI **Enzymic method for quantitating specific lipoprotein**  
 IN **Kishi, Koji; Kakuyama, Tsutomu; Ochiai, Koji**  
**; Hasegawa, Yuzo**  
 PA **International Reagents Corp., Japan**  
 SO PCT Int. Appl., 32 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA Japanese  
 IC ICM G01N033-92  
 ICS C12Q001-44  
 CC 9-2 (Biochemical Methods)  
 Section cross-reference(s): 7

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000052480	A1	20000908	WO 2000-JP1172	20000229 <--
	W: CA, JP, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 1158299	A1	20011128	EP 2000-905409	20000229 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PRAI	JP 1999-53330	A	19990301	<--	
	WO 2000-JP1172	W	20000229	<--	
AB	An <b>enzymic</b> method is provided for quantitating a specific component (e.g., <b>HDL</b> ( <b>high-d. lipoprotein</b> ), <b>LDL</b> ( <b>low-d. lipoprotein</b> ), <b>VLDL</b> ( <b>very low-d. lipoprotein</b> )) in <b>lipoproteins</b> contained in a biol. sample by using a commonly employed automated analyzer without performing centrifugation or making the reaction liquid cloudy due to the formation of complexes or aggregates. A control means (e.g, <b>ionic strength</b> , <b>enzyme</b> , <b>surfactant</b> ) is introduced into the method so that the <b>enzyme</b> reaction can be carried out exclusively for the target component. For example, <b>HDL</b> was highly specifically quantitated using <b>lipoprotein lipase</b> ( <b>LPL</b> ) and <b>cholesterol esterase</b> ( <b>CE</b> ) from <i>Chromobacterium viscosum</i> in the presence of 100mM <b>hydrazine</b> and 0.6% <b>Nonion K-230</b> ( <b>nonionic surfactant</b> with HLB 17.3).				
ST	<b>HDL LDL VLDL lipoprotein enzymic analysis;</b> <b>lipoprotein lipase nonionic surfactant</b> <b>ionic strength</b>				
IT	<b>Nonion</b> (K-230; A-10R; <b>enzymic</b> method for quantitating specific <b>lipoprotein</b> )				
IT	<b>Analytical apparatus</b> (automated; <b>enzymic</b> method for quantitating specific <b>lipoprotein</b> )				
IT	<b>Analysis</b> ( <b>enzymic anal.</b> ; <b>enzymic</b> method for quantitating specific <b>lipoprotein</b> )				
IT	<b>Blood analysis</b> <i>Chromobacterium viscosum</i> Hydrophile-lipophile balance value <b>Ionic strength</b> <b>Surfactants</b> <b>pH</b> ( <b>enzymic</b> method for quantitating specific <b>lipoprotein</b> )				
IT	<b>Lipoproteins</b> RL: ANT (Analyte); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process)				

(enzymic method for quantitating specific lipoprotein  
)

IT **Enzymes, uses**  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(enzymic method for quantitating specific lipoprotein  
)

IT **Lipoproteins**  
RL: ANT (Analyte); PEP (Physical, engineering or chemical process); ANST  
(Analytical study); PROC (Process)  
(high-d.; enzymic method for quantitating  
specific lipoprotein)

IT **Lipoproteins**  
RL: ANT (Analyte); PEP (Physical, engineering or chemical process); ANST  
(Analytical study); PROC (Process)  
(low-d.; enzymic method for quantitating specific  
lipoprotein)

IT **Surfactants**  
(nonionic; enzymic method for quantitating specific  
lipoprotein)

IT **Lipoproteins**  
RL: ANT (Analyte); PEP (Physical, engineering or chemical process); ANST  
(Analytical study); PROC (Process)  
(very-low-d.; enzymic method for quantitating specific  
lipoprotein)

IT **9004-02-8, Lipoprotein lipase**  
**9026-00-0, Esterase, cholesterol**  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(enzymic method for quantitating specific lipoprotein  
)

IT **302-01-2, Hydrazine, analysis** 9004-98-2, Brij97  
**9028-76-6, Cholesterol oxidase**  
**67775-34-2, Cholesterol dehydrogenase**  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(enzymic method for quantitating specific lipoprotein  
)

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

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(2) Daiichi Pure Chem Co Ltd; WO 99010526 A  
(3) Daiichi Pure Chem Co Ltd; JP 1156395 A 1999  
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(5) Wako Pure Chemical Industries Ltd; US 5814472 A HCAPLUS  
(6) Wako Pure Chemical Industries Ltd; US 5814472 A HCAPLUS  
(7) Wako Pure Chemical Industries Ltd; US 5885788 A HCAPLUS  
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(10) Wako Pure Chemical Industries Ltd; EP 878716 A HCAPLUS  
(11) Wako Pure Chemical Industries Ltd; JP 10311833 A 1998 HCAPLUS  
(12) Wako Pure Chemical Industries Ltd; JP 1084997 A 1998  
(13) Wako Pure Chemical Industries Ltd; JP 1130617 A 1999

IT **9004-02-8, Lipoprotein lipase**  
**9026-00-0, Esterase, cholesterol**  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(enzymic method for quantitating specific lipoprotein  
)

RN 9004-02-8 HCAPLUS  
CN Lipase, lipoprotein (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*  
RN 9026-00-0 HCAPLUS  
CN Esterase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*



IT 302-01-2, Hydrazine, analysis 9028-76-6,  
Cholesterol oxidase 67775-34-2,  
Cholesterol dehydrogenase  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(enzymic method for quantitating specific lipoprotein  
)  
RN 302-01-2 HCAPLUS  
CN Hydrazine (7CI, 8CI, 9CI) (CA INDEX NAME)

H<sub>2</sub>N—NH<sub>2</sub>

RN 9028-76-6 HCAPLUS  
CN Oxidase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 67775-34-2 HCAPLUS  
CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L88 ANSWER 14 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 2000:595876 HCAPLUS  
DN 133:173763  
ED Entered STN: 28 Aug 2000  
TI The characteristics and applications of recombinant **cholesterol dehydrogenase**  
AU Kishi, Koji; Watazu, Yoshifumi; Katayama, Yoshiaki; Okabe, Hiroaki  
CS International Reagents Corp., Kobe, 651-2241, Japan  
SO Bioscience, Biotechnology, and Biochemistry (2000), 64(7), 1352-1358  
CODEN: BBBIEJ; ISSN: 0916-8451  
PB Japan Society for Bioscience, Biotechnology, and Agrochemistry  
DT Journal  
LA English  
CC 7-2 (Enzymes)  
Section cross-reference(s): 9  
AB Mass production of recombinant **cholesterol dehydrogenase** (r-CDH) derived from *Nocardia* sp. was made possible by gene technol. However, the characteristics of the r-CDH have not been studied in detail and have not been improved enough for industrial use. Here, the authors characterized both native-CDH and r-CDH prepared from *Streptomyces lividans*. Both CDHs were monomers with mol. wts. of 37 kDa. The Km values of r-CDH was 2.50 x 10<sup>-3</sup> M for **cholesterol** and 2.33 x 10<sup>-4</sup> M for **NAD**. The activators of CDHs were Triton X-100 and cholate. Triton X-405, Ag<sup>+</sup>, and Zn<sup>2+</sup> inhibited both **enzymes**. The residual activity of native CDH after heat treatment was 32% (37°, 60 min), whereas r-CDH showed a residual activity of 87% (37°, 60 min). The r-CDH **enzyme** exhibited high substrate specificity for **cholesterol** as well as native CDH and higher thermal stability than native CDH. The authors developed a novel serum **cholesterol** assay using r-CDH, which permitted the direct measurement of **cholesterol** by measuring NADH reaction products. It was concluded that this r-CDH **enzyme** is useful and can be used to measure **cholesterol** in a clin. chemical setting.  
ST **dehydrogenase cholesterol** recombinant form *Nocardia*;  
**cholesterol enzymic detn**  
IT Michaelis constant  
(of **cholesterol dehydrogenase** recombinant form of *Nocardia* sp.)  
IT *Nocardia*  
(purification, characterization, and use in **cholesterol** determination of

recombinant *Nocardia* sp. **cholesterol dehydrogenase**)

IT 67775-34-2P, **Cholesterol dehydrogenase**  
 RL: ARG (Analytical reagent use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (purification, characterization, and use in **cholesterol** determination of recombinant *Nocardia* sp. **cholesterol dehydrogenase**)

IT 57-88-5, **Cholesterol**, analysis  
 RL: ANT (Analyte); ANST (Analytical study)  
 (use in **cholesterol** determination of recombinant *Nocardia* sp. **cholesterol dehydrogenase**)

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE

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- (14) Hopwood, D; J Gen Microbiol 1983, V129, P2257 HCAPLUS
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- (17) Laemmli, U; Nature 1970, V227, P680 HCAPLUS
- (18) McComb, R; Clin Chem 1976, V22, P141 HCAPLUS
- (19) Vesterberg, O; Method in Enzymology 1977, V22, P389

IT 67775-34-2P, **Cholesterol dehydrogenase**  
 RL: ARG (Analytical reagent use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (purification, characterization, and use in **cholesterol** determination of recombinant *Nocardia* sp. **cholesterol dehydrogenase**)

RN 67775-34-2 HCAPLUS

CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

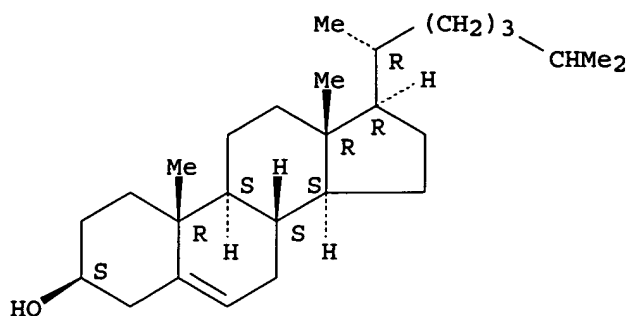
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 57-88-5, **Cholesterol**, analysis  
 RL: ANT (Analyte); ANST (Analytical study)  
 (use in **cholesterol** determination of recombinant *Nocardia* sp. **cholesterol dehydrogenase**)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3 $\beta$ ) - (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L88 ANSWER 15 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2000:266876 HCAPLUS  
 DN 132:305464  
 ED Entered STN: 25 Apr 2000  
 TI A direct and selective **enzymic** method for quantitating  
**cholesterol** in each **lipoprotein**  
 IN Shinbo, Takao; Tadano, Toshio  
 PA T.T.K. Y. K., Japan  
 SO Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese  
 IC ICM C12Q001-60  
 ICS G01N033-92  
 CC 9-2 (Biochemical Methods)  
 Section cross-reference(s): 13

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000116400	A2	20000425	JP 1998-322772	19981009
PRAI	JP 1998-322772		19981009		

AB A method is provided for directly and selectively quantitating **cholesterol** in each **lipoprotein** (chylomicron, **HDL**, **LDL**, or **VLDL**) in a test sample in the presence of phosphorus compound, **surfactant** and protein solubilizer without fractionating it even when each **lipoprotein** coexists in the sample. A selectivity is given to the reaction between each **lipoprotein** and an **enzyme** (e.g., **cholesterol esterase**, **cholesterol oxidase**, **cholesterol dehydrogenase**) by selecting an appropriate kind of phosphorus compound (e.g., inorg. phosphoric acid, its salt, organic phosphate, organic phosphorus compound) and the appropriate kind and concentration for **surfactant** (e.g., polyoxyethylene-polyoxypropylene copolymer, polyoxyethylene polymer, polyoxypropylene polymer) and protein solubilizer (e.g, anionic-, cationic-, **nonionic-surfactant**). The method is useful in quantitating **cholesterol** which is important in terms of lipid metabolism in the field of clin. diagnosis. A good correlation was observed between the amts. of **cholesterol** in **HDL** or **LDL** in a serum sample measured by this method and by the centrifugation method.

ST **cholesterol lipoprotein HDL LDL**  
**enzymic analysis**

IT **Surfactants**  
 (anionic; direct and selective method **enzymic** for  
 quantitating **cholesterol** in each **lipoprotein**)

IT **Surfactants**  
 (cationic; direct and selective method **enzymic** for  
 quantitating **cholesterol** in each **lipoprotein**)

- IT Polyoxyalkylenes, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(derivative; direct and selective method **enzymic** for quantitating  
**cholesterol** in each lipoprotein)
- IT Blood analysis  
Chylomicrons  
Diagnosis  
Surfactants  
(direct and selective method **enzymic** for quantitating  
**cholesterol** in each lipoprotein)
- IT Lipoproteins  
RL: AMX (Analytical matrix); BSU (Biological study, unclassified); ANST  
(Analytical study); BIOL (Biological study)  
(direct and selective method **enzymic** for quantitating  
**cholesterol** in each lipoprotein)
- IT Phosphates, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(direct and selective method **enzymic** for quantitating  
**cholesterol** in each lipoprotein)
- IT Analysis  
(**enzymic** anal.; direct and selective method **enzymic**  
for quantitating **cholesterol** in each lipoprotein)
- IT Lipoproteins  
RL: AMX (Analytical matrix); BSU (Biological study, unclassified); ANST  
(Analytical study); BIOL (Biological study)  
(high-d.; direct and selective method  
**enzymic** for quantitating **cholesterol** in each  
lipoprotein)
- IT Lipoproteins  
RL: AMX (Analytical matrix); BSU (Biological study, unclassified); ANST  
(Analytical study); BIOL (Biological study)  
(low-d.; direct and selective method **enzymic** for quantitating  
**cholesterol** in each lipoprotein)
- IT Lipids, biological studies  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(metabolism; direct and selective method **enzymic** for quantitating  
**cholesterol** in each lipoprotein)
- IT Surfactants  
(nonionic; direct and selective method **enzymic** for  
quantitating **cholesterol** in each lipoprotein)
- IT Lipoproteins  
RL: AMX (Analytical matrix); BSU (Biological study, unclassified); ANST  
(Analytical study); BIOL (Biological study)  
(very-low-d.; direct and selective method **enzymic** for  
quantitating **cholesterol** in each lipoprotein)
- IT 7723-14-0, Phosphorus, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(compound; direct and selective method **enzymic** for quantitating  
**cholesterol** in each lipoprotein)
- IT 57-88-5, Cholesterol, analysis  
RL: ANT (Analyte); ANST (Analytical study)  
(direct and selective method **enzymic** for quantitating  
**cholesterol** in each lipoprotein)
- IT 9026-00-0, Cholesterol esterase  
9028-76-6, Cholesterol oxidase  
67775-34-2, Cholesterol dehydrogenase  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(direct and selective method **enzymic** for quantitating  
**cholesterol** in each lipoprotein)
- IT 7487-88-9, Magnesium sulfate, analysis 7558-79-4 7664-38-2, Phosphoric  
acid, analysis 7786-30-3, Magnesium chloride, analysis 9003-11-6,  
Polyoxyethylene-polyoxypropylene copolymer 9004-81-3, Polyoxyethylene  
monolaurate 25322-68-3D, derivative 25322-69-4D, derivative 31017-83-1,

Polyoxyethylene laurylamine 71276-50-1, . $\alpha$ .-Tocopherol phosphate  
90940-45-7 128808-25-3 134499-53-9 265096-08-0,  $\beta$ -Glucan  
phosphate disodium

RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(direct and selective method **enzymic** for quantitating  
**cholesterol** in each **lipoprotein**)

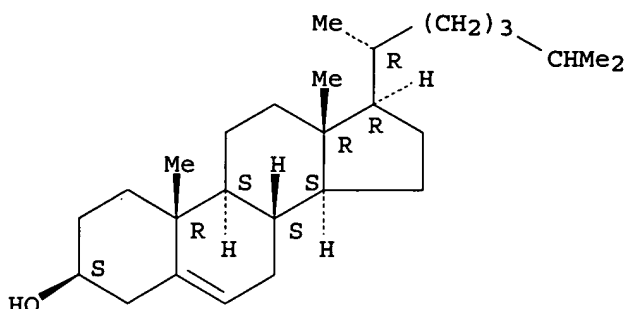
IT 57-88-5, Cholesterol, analysis

RL: ANT (Analyte); ANST (Analytical study)  
(direct and selective method **enzymic** for quantitating  
**cholesterol** in each **lipoprotein**)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 9026-00-0, Cholesterol esterase

9028-76-6, Cholesterol oxidase

67775-34-2, Cholesterol dehydrogenase

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(direct and selective method **enzymic** for quantitating  
**cholesterol** in each **lipoprotein**)

RN 9026-00-0 HCAPLUS

CN Esterase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9028-76-6 HCAPLUS

CN Oxidase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 67775-34-2 HCAPLUS

CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L88 ANSWER 16 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:814622 HCAPLUS

DN 132:47230

ED Entered STN: 27 Dec 1999

TI An elution liquid for the quantitative separation and analysis of serum  
**lipoproteins** in gel-permeation chromatography

IN Kitamura, Takashi

PA Tosoh Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G01N030-26

ICS G01N030-48; G01N030-88; G01N033-48

CC 9-3 (Biochemical Methods)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11352119	A2	19991224	JP 1998-155733	19980604
PRAI	JP 1998-155733		19980604		
AB	An improved method excellent in speed and recovery is provided for separating and analyzing serum <b>lipoproteins</b> in high-performance gel-permeation chromatog. by avoiding the drop in recovery due to the hydrophobic adsorption of <b>lipoproteins</b> to the column filler. As an elution liquid for separating and analyzing serum <b>lipoproteins</b> on gel filtration, a buffer (pH 6.0-9.0) containing the salt of monovalent chaotropic anion and/or the <b>non-ionic surfactant</b> with 9-16 HLB is used. <b>Cholesterol</b> s in <b>lipoproteins</b> isolated by the chromatog. are colorimetrically determined using a combination of <b>enzymes</b> and a quinone coloring dye. A significantly improved recovery of serum <b>lipoproteins</b> on gel filtration was obtained by using an elution buffer containing sodium acetate, or sodium acetate and Emulgen 910.				
ST	gel permeation chromatog <b>lipoprotein</b> chaotropic anion; hydrophilicity hydrophobicity <b>nonionic surfactant</b> adsorption chromatog				
IT	Anions (chaotropic anions; elution liquid for quant. separation and anal. of serum <b>lipoproteins</b> in gel-permeation chromatog.)				
IT	Blood analysis Colorimetry Dyes High-performance gel-permeation chromatography Hydrophile-lipophile balance value Hydrophobicity pH (elution liquid for quant. separation and anal. of serum <b>lipoproteins</b> in gel-permeation chromatog.)				
IT	<b>Lipoproteins</b> RL: ANT (Analyte); PUR (Purification or recovery); ANST (Analytical study); PREP (Preparation) (elution liquid for quant. separation and anal. of serum <b>lipoproteins</b> in gel-permeation chromatog.)				
IT	<b>Enzymes</b> , uses RL: NUU (Other use, unclassified); USES (Uses) (elution liquid for quant. separation and anal. of serum <b>lipoproteins</b> in gel-permeation chromatog.)				
IT	<b>Lipoproteins</b> RL: ANT (Analyte); PUR (Purification or recovery); ANST (Analytical study); PREP (Preparation) (high-d.; elution liquid for quant. separation and anal. of serum <b>lipoproteins</b> in gel-permeation chromatog.)				
IT	<b>Lipoproteins</b> RL: ANT (Analyte); PUR (Purification or recovery); ANST (Analytical study); PREP (Preparation) (low-d.; elution liquid for quant. separation and anal. of serum <b>lipoproteins</b> in gel-permeation chromatog.)				
IT	<b>Surfactants</b> ( <b>nonionic</b> ; elution liquid for quant. separation and anal. of serum <b>lipoproteins</b> in gel-permeation chromatog.)				
IT	Adsorption (protein; elution liquid for quant. separation and anal. of serum <b>lipoproteins</b> in gel-permeation chromatog.)				
IT	<b>Lipoproteins</b> RL: ANT (Analyte); PUR (Purification or recovery); ANST (Analytical study); PREP (Preparation) (very-low-d.; elution liquid for quant. separation and anal. of serum <b>lipoproteins</b> in gel-permeation chromatog.)				
IT	57-88-5, <b>Cholesterol</b> , analysis				

RL: ANT (Analyte); ANST (Analytical study)

(elution liquid for quant. separation and anal. of serum lipoproteins in gel-permeation chromatog.)

IT 83-07-8, 4-Aminoantipyrine 9003-99-0, Peroxidase

9026-00-0, Cholesterol esterase

9028-76-6, Cholesterol oxidase 9029-44-1,

Ascorbate oxidase 88795-34-0, N-Ethyl-N-(3-sulfopropyl)-m-

anisidine 163729-62-2, N-Ethyl-N-(3-methylphenyl)-N'-

succinylethylenediamine

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

(elution liquid for quant. separation and anal. of serum lipoproteins in gel-permeation chromatog.)

IT 106-51-4D, Quinone, derivs. 127-09-3, Acetic acid, sodium salt

9016-45-9, Emulgen 910

RL: NUU (Other use, unclassified); USES (Uses)

(elution liquid for quant. separation and anal. of serum lipoproteins in gel-permeation chromatog.)

IT 57-88-5, Cholesterol, analysis

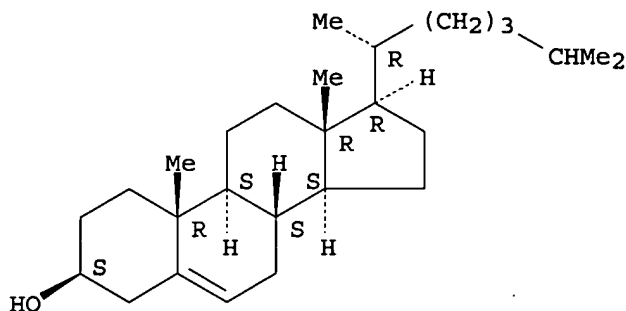
RL: ANT (Analyte); ANST (Analytical study)

(elution liquid for quant. separation and anal. of serum lipoproteins in gel-permeation chromatog.)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 9026-00-0, Cholesterol esterase

9028-76-6, Cholesterol oxidase

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

(elution liquid for quant. separation and anal. of serum lipoproteins in gel-permeation chromatog.)

RN 9026-00-0 HCAPLUS

CN Esterase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9028-76-6 HCAPLUS

CN Oxidase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L88 ANSWER 17 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:378136 HCAPLUS

DN 131:56137

ED Entered STN: 18 Jun 1999

TI Method and reagent kits for determination of lipoprotein cholesterol

IN Kishi, Koji; Kakuyama, Tsutomu; Shirahase, Yasushi; Watadzu, Yoshifumi

PA International Reagents Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C12Q001-32

ICS C12Q001-26; C12Q001-60; G01N033-92

CC 9-5 (Biochemical Methods)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11155595	A2	19990615	JP 1997-325023	19971126
PRAI	JP 1997-325023		19971126		

AB **Cholesterol (I) of a target lipoprotein is determined in**  
biol. samples containing non-target lipoproteins by (1) treating I  
of non-target lipoproteins with **cholesterol**  
**oxidase**, (2) measuring light absorbance, (3) treating I of the  
target lipoprotein with **cholesterol**  
**dehydrogenase**, (4) measuring light absorbance, and (5) determining the  
difference between the former absorbance and the latter. The  
**enzyme** treatment is carried out in the presence of compds. forming  
water-soluble complexes with I to prevent formation of aggregates.

ST **lipoprotein cholesterol detn kit enzyme;**  
**oxidase dehydrogenase cholesterol**  
**lipoprotein detn**

IT Polyoxyalkylenes, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(aggregation inhibitor; method and **reagent** kits for determination of  
**lipoprotein cholesterol with cholesterol**  
**oxidase and dehydrogenase)**

IT Metacyclopphanes  
Polysaccharides, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(aggregation inhibitors; method and **reagent** kits for determination of  
**lipoprotein cholesterol with cholesterol**  
**oxidase and dehydrogenase)**

IT Polyelectrolytes  
(anionic, aggregation inhibitors; method and **reagent** kits for  
determination of **lipoprotein cholesterol with**  
**cholesterol oxidase and dehydrogenase)**

IT **Lipoproteins**  
RL: ANT (Analyte); ANST (Analytical study)  
(high-d.; method and **reagent** kits for  
determination of **lipoprotein cholesterol with**  
**cholesterol oxidase and dehydrogenase)**

IT **Lipoproteins**  
RL: ANT (Analyte); ANST (Analytical study)  
(low-d.; method and **reagent** kits for determination of  
**lipoprotein cholesterol with cholesterol**  
**oxidase and dehydrogenase)**

IT Blood analysis  
Test kits  
(method and **reagent** kits for determination of **lipoprotein**  
**cholesterol with cholesterol oxidase and**  
**dehydrogenase)**

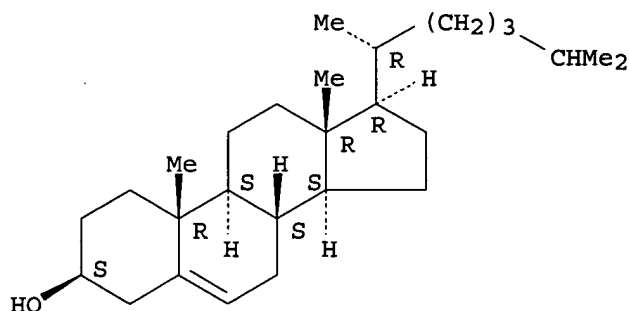
IT **Lipoproteins**  
RL: ANT (Analyte); ANST (Analytical study)  
(remnant-like; method and **reagent** kits for determination of  
**lipoprotein cholesterol with cholesterol**  
**oxidase and dehydrogenase)**

IT **Lipoproteins**  
RL: ANT (Analyte); ANST (Analytical study)  
(very-low-d.; method and **reagent** kits for determination of  
**lipoprotein cholesterol with cholesterol**  
**oxidase and dehydrogenase)**



- IT Polymers, analysis  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (water-soluble, aggregation inhibitors; method and reagent kits  
 for determination of lipoprotein cholesterol with  
 cholesterol oxidase and dehydrogenase)
- IT 9003-01-4, Poly(acrylic acid) 9005-38-3, Sodium alginate 9011-18-1,  
 Dextran sodium sulfate 9041-08-1, Heparin sodium salt 9064-57-7,  
 $\lambda$ -Carrageenan 11028-71-0, Concanavalin A 17465-86-0D,  
 $\gamma$ -Cyclodextrin, 2-hydroxypropyl derivs. 25322-68-3 51166-71-3,  
 2,6-Dimethyl- $\beta$ -cyclodextrin 51312-42-6, Sodium phosphotungstate  
 228396-37-0 228396-38-1 228396-39-2  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (aggregation inhibitor; method and reagent kits for determination of  
 lipoprotein cholesterol with cholesterol  
 oxidase and dehydrogenase)
- IT 57-88-5, Cholest-5-en-3-ol (3 $\beta$ )-, analysis  
 RL: ANT (Analyte); ANST (Analytical study)  
 (blood; method and reagent kits for determination of  
 lipoprotein cholesterol with cholesterol  
 oxidase and dehydrogenase)
- IT 57-88-5, Cholesterol, analysis  
 RL: ANT (Analyte); ANST (Analytical study)  
 (method and reagent kits for determination of lipoprotein  
 cholesterol with cholesterol oxidase and  
 dehydrogenase)
- IT 9028-76-6, Cholesterol oxidase  
 67775-34-2, Cholesterol dehydrogenase  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (method and reagent kits for determination of lipoprotein  
 cholesterol with cholesterol oxidase and  
 dehydrogenase)
- IT 57-88-5, Cholest-5-en-3-ol (3 $\beta$ )-, analysis  
 RL: ANT (Analyte); ANST (Analytical study)  
 (blood; method and reagent kits for determination of  
 lipoprotein cholesterol with cholesterol  
 oxidase and dehydrogenase)
- RN 57-88-5 HCAPLUS  
 CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



- RL: ANT (Analyte); ANST (Analytical study)  
 (method and reagent kits for detn. of lipoprotein  
 cholesterol with cholesterol oxidase and  
 dehydrogenase)
- IT 9028-76-6, Cholesterol oxidase  
 67775-34-2, Cholesterol dehydrogenase  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (method and reagent kits for determination of lipoprotein  
 cholesterol with cholesterol oxidase and

**dehydrogenase)**

RN 9028-76-6 HCAPLUS

CN Oxidase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 67775-34-2 HCAPLUS

CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L88 ANSWER 18 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:191608 HCAPLUS

DN 131:41640

ED Entered STN: 24 Mar 1999

TI New homogeneous assay method for serum LDL-cholesterol by using  
**cholesterol dehydrogenase.**AU Kishi, Koji; Kakuyama, Tutomu; Ikeda, Masafumi; Watazu,  
Yoshifumi; Nasu, Masato; Kayamori, Yuzo; Katayama, Yoshiaki; Nakamura,  
Masakazu

CS Int. Reagent Corp., Kobe, 651-2241, Japan

SO Seibutsu Shiryo Bunseki (1998), 21(5), 385-392

CODEN: SSBUEL; ISSN: 0913-3763

PB Seibutsu Shiryo Bunseki Kagakkai

DT Journal

LA Japanese

CC 9-2 (Biochemical Methods)

Section cross-reference(s): 14

AB We have found that 4-sulfonyl calixarene transforms **lipoproteins** in human serum including very low d. **lipoproteins** (VLDL), low d. **lipoproteins** (LDL) and high d. **lipoproteins** (HDL) into soluble complexes, and that the reactivity of each soluble **lipoprotein** complex type with **cholesterol** hydrolase is different. Based on these exptl. results, we have developed a homogeneous LDL-cholesterol assay method by using both **cholesterol dehydrogenase** (CDH) from *Nocardia* sp. and **cholesterol esterase** (CE) from *Chromobacterium viscosum*. The performance of this new method, CE-CDH reaction system, is as follows: reproducibility is 0.44-0.6% (n = 20); assay response is linear up to 400 mg/dL (6.89 mmol/l); and reduced substances (bilirubin, etc.) do not interfere with the assay. The correlation between our new LDL-cholesterol assay method (y) and beta quantification method (x) by Osaka Medical Center for Cancer & Cardiovascular Disease (OMC) with fresh human serum (n = 50) is  $y = 0.955x + 2.77$  (mg/dL),  $r = 0.992$ . We conclude that the new method is easily applicable to automated analyzers and is able to meet the requirement for accurate and precise routine anal. of LDL-cholesterol as a diagnostic marker for arteriosclerosis in clin. labs.

ST homogeneous assay serum LDL **cholesterol dehydrogenase**

IT Metacyclophanes

RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(4-sulfonyl; new homogeneous assay method for serum LDL-  
**cholesterol** by using **cholesterol**  
**dehydrogenase**)

IT Analysis

(enzymic anal.; new homogeneous assay method for serum LDL-  
**cholesterol** by using **cholesterol**  
**dehydrogenase**)

IT **Lipoproteins**

RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(high-d.; new homogeneous assay method for serum  
LDL-cholesterol by using **cholesterol**  
**dehydrogenase**)

IT **Lipoproteins**

RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(low-d.; new homogeneous assay method for serum LDL-cholesterol by using cholesterol dehydrogenase)

IT Arteriosclerosis

Blood analysis

Diagnosis

(new homogeneous assay method for serum LDL-cholesterol by using cholesterol dehydrogenase)

IT Lipoproteins

RL: ARU (Analytical role, unclassified); ANST (Analytical study)

(very-low-d.; new homogeneous assay method for serum LDL-cholesterol by using cholesterol dehydrogenase)

IT 57-88-5, Cholesterol, analysis

RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(LDL-; new homogeneous assay method for serum LDL-cholesterol by using cholesterol dehydrogenase)

IT 9028-76-6 67775-34-2

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

(new homogeneous assay method for serum LDL-cholesterol by using cholesterol dehydrogenase)

IT 9026-00-0

RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)

(new homogeneous assay method for serum LDL-cholesterol by using cholesterol dehydrogenase)

IT 57-88-5, Cholesterol, analysis

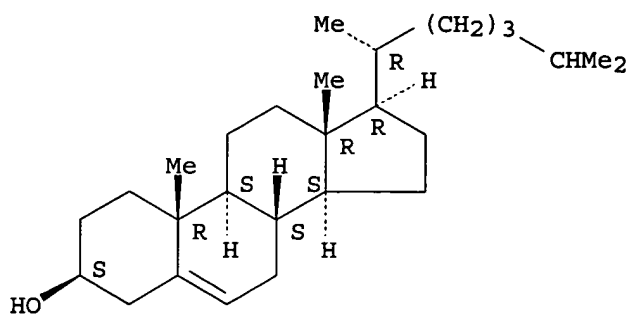
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(LDL-; new homogeneous assay method for serum LDL-cholesterol by using cholesterol dehydrogenase)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 9028-76-6 67775-34-2

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

(new homogeneous assay method for serum LDL-cholesterol by using cholesterol dehydrogenase)

RN 9028-76-6 HCAPLUS

CN Oxidase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 67775-34-2 HCAPLUS

CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 9026-00-0  
 RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)  
 (new homogeneous assay method for serum LDL-cholesterol by using **cholesterol dehydrogenase**)  
 RN 9026-00-0 HCAPLUS  
 CN Esterase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L88 ANSWER 19 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1999:65070 HCAPLUS  
 DN 130:107247  
 ED Entered STN: 01 Feb 1999  
 TI Method and **reagents** for determination of **cholesterol**  
 IN Shirahase, Yasushi; Kishi, Hiroshi; Watadzu, Yoshifumi  
 PA International Reagents Corp., Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese  
 IC ICM C12Q001-60  
 ICS C12Q001-26; C12Q001-32; G01N033-92  
 CC 9-2 (Biochemical Methods)  
 Section cross-reference(s): 14, 17

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11018798	A2	19990126	JP 1997-181297	19970707
PRAI	JP 1997-181297		19970707		

AB The method, especially useful for clin. and food anal., involves determining the amts.

of H<sub>2</sub>O<sub>2</sub> generated by the cycling reactions using **cholesterol** (I) as a substrate in the presence of I **oxidase**, I **dehydrogenase**, reduced coenzyme, a 2nd **dehydrogenase** that regenerates the reduced coenzyme from oxidized coenzyme, and reduced substrates for the 2nd **dehydrogenase**. The **reagents** are also claimed. I at 1, 2, 4, 8, 16, 32, and 64 mg/dL could be determined accurately by the cycling reactions in the presence of  $\beta$ -NADH, di-Na glucose 6-phosphate, glucose 6-phosphate **dehydrogenase**, I **oxidase**, and I **dehydrogenase**.

ST **cholesterol detn dehydrogenase oxidase**  
 coenzyme substrate; hydrogen peroxide **cholesterol** detn **enzyme** substrate; clin **cholesterol** detn **oxidase dehydrogenase** substrate; food **cholesterol** detn **oxidase dehydrogenase** substrate

IT Blood analysis  
 Blood serum  
 Food analysis  
 Urine analysis

(**enzymes** and substrates for determination of **cholesterol** by cycling reactions with high sensitivity)

IT Coenzymes  
 RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
 (**enzymes** and substrates for determination of **cholesterol** by cycling reactions with high sensitivity)

IT 57-88-5, Cholest-5-en-3-ol (3 $\beta$ )-, biological studies  
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)  
 (blood; **enzymes** and substrates for determination of **cholesterol** by cycling reactions with high sensitivity)

IT 57-88-5, Cholesterol, analysis 7722-84-1, Hydrogen

peroxide, analysis

RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(enzymes and substrates for determination of cholesterol by cycling reactions with high sensitivity)

- IT 50-00-0, Formaldehyde, biological studies 53-57-6, NADPH  
56-73-5, Glucose 6-phosphate 58-68-4,  $\beta$ -NADH 1921-48-8, Reduced  
thionicotinamide adenine dinucleotide  
3671-99-6 9001-40-5, Glucose 6-phosphate dehydrogenase  
9028-76-6, Cholesterol oxidase 9028-84-6,  
Formaldehyde dehydrogenase 38850-22-5 67775-34-2,  
Cholesterol dehydrogenase

RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

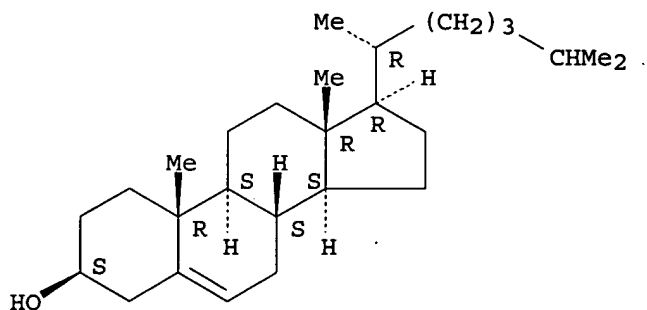
(enzymes and substrates for determination of cholesterol by cycling reactions with high sensitivity)

- IT 57-88-5, Cholest-5-en-3-ol (3 $\beta$ )-, biological studies  
RL: BOC (Biological occurrence); BSU (Biological study, unclassified);  
BIOL (Biological study); OCCU (Occurrence)  
(blood; enzymes and substrates for determination of  
cholesterol by cycling reactions with high sensitivity)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(enzymes and substrates for detn. of cholesterol by cycling reactions with high sensitivity)

- IT 53-57-6, NADPH 9028-76-6, Cholesterol  
oxidase 67775-34-2, Cholesterol  
dehydrogenase

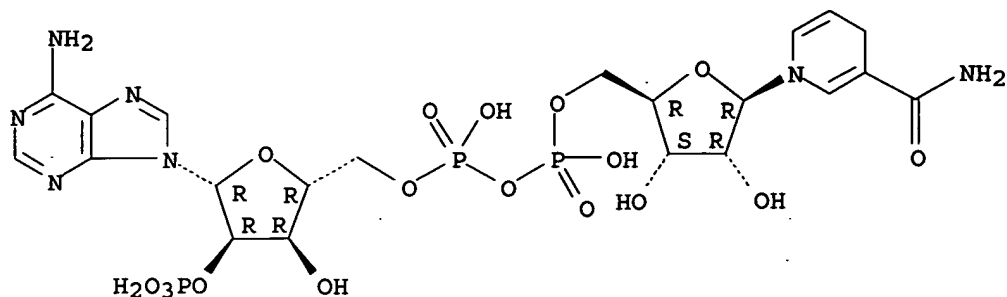
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(enzymes and substrates for determination of cholesterol by cycling reactions with high sensitivity)

RN 53-57-6 HCAPLUS

CN Adenosine 5'-(trihydrogen diphosphate), 2'-(dihydrogen phosphate),  
P' $\rightarrow$ 5'-ester with 1,4-dihydro-1- $\beta$ -D-ribofuranosyl-3-  
pyridinecarboxamide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 9028-76-6 HCAPLUS  
 CN Oxidase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 67775-34-2 HCAPLUS  
 CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L88 ANSWER 20 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:27957 HCAPLUS

DN 130:92454

ED Entered STN: 14 Jan 1999

TI A method and reagent for assaying a substance contained in a component of biological sample.

IN Kishi, Koji; Kakuyama, Tsutomu; Shirahase, Yasushi; Watazu, Yoshifumi

PA International Reagents Corporation, Japan

SO PCT Int. Appl., 21 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C12Q001-60

ICS G01N033-536; G01N033-92

CC 9-2 (Biochemical Methods)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9859068	A1	19981230	WO 1998-JP2795	19980622
	W: JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 1020532	A1	20000719	EP 1998-928635	19980622
	R: DE, ES, FR, GB				
	JP 3251304	B2	20020128	JP 1999-504170	19980622
	US 6114134	A	20000905	US 1999-453474	19991202
PRAI	JP 1997-169281	A	19970625		
	WO 1998-JP2795	W	19980622		

AB A method is described for assaying a substance contained in a component of biol. sample using one or more calixarenes. The method utilizes the property of calixarenes of forming complexes with certain components (e.g. low-d. lipoprotein (LDL) and very low-d. lipoprotein (VLDL)) of biol. sample and suppressing the liberation of a substance (e.g. cholesterol) contained in the components. Then, it is allowed to assay a substance contained in another component (e.g., cholesterol in high-d. lipoprotein (HDL)), using specific enzymes (e.g. cholesterol esterase and cholesterol dehydrogenase), without preliminary separating the component from the other components of the

sample. The method can be conducted by simple operations and lessens assay errors or human-made problems. It can be applied to the continuous measurement with general-purpose automatic analyzer and multichannel assay tied with other test items. The **reagent** containing one or more calixarenes for this method is also claimed. Calixarene compds. containing sulfates, carboxylates, amines and acetates were used.

- ST calixarene LDL VLDL HDL cholesterol assay
- IT Analytical apparatus  
(automated; method and **reagent** for assaying substance contained in component of biol. sample)
- IT Analysis  
(**enzymic** anal.; method and **reagent** for assaying substance contained in component of biol. sample)
- IT **Lipoproteins**  
RL: AMX (Analytical matrix); ANST (Analytical study)  
(**high-d.**; method and **reagent** for assaying substance contained in component of biol. sample)
- IT **Lipoproteins**  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(**low-d.**; method and **reagent** for assaying substance contained in component of biol. sample)
- IT Blood analysis  
UV and visible spectroscopy  
(method and **reagent** for assaying substance contained in component of biol. sample)
- IT Metacyclophanes  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(method and **reagent** for assaying substance contained in component of biol. sample)
- IT **Lipoproteins**  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(**very-low-d.**, remnants; method and **reagent** for assaying substance contained in component of biol. sample)
- IT **Lipoproteins**  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(**very-low-d.**; method and **reagent** for assaying substance contained in component of biol. sample)
- IT 57-88-5, Cholesterol, analysis  
RL: ANT (Analyte); ANST (Analytical study)  
(method and **reagent** for assaying substance contained in component of biol. sample)
- IT 9004-02-8, Lipoprotein lipase  
9026-00-0, Cholesterol esterase  
9028-76-6, Cholesterol oxidase 67775-34-2  
, Cholesterol dehydrogenase  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(method and **reagent** for assaying substance contained in component of biol. sample)
- IT 281-54-9, Calix(4) arene 281-54-9D, Calix(4)arene, derivs. 82040-66-2, Calix(8) arene 82040-66-2D, Calix(8) arene, derivs. 96627-08-6, Calix(6) arene 96627-08-6D, Calix(6) arene, derivs.  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(method and **reagent** for assaying substance contained in component of biol. sample)

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD

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 (14) The Flinders University Of South Australia; WO 8808137 A HCAPLUS  
 (15) The Flinders University Of South Australia; AU 8815788 A HCAPLUS  
 (16) The Flinders University Of South Australia; JP 01503596 A 1989

IT 57-88-5, Cholesterol, analysis

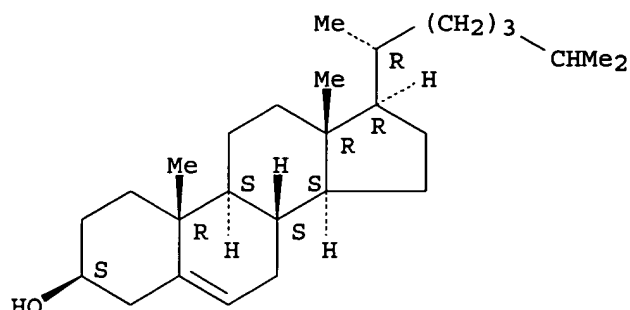
RL: ANT (Analyte); ANST (Analytical study)

(method and reagent for assaying substance contained in component of biol. sample)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 9004-02-8, Lipoprotein lipase

9026-00-0, Cholesterol esterase

9028-76-6, Cholesterol oxidase

67775-34-2, Cholesterol dehydrogenase

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (method and reagent for assaying substance contained in component of biol. sample)

RN 9004-02-8 HCAPLUS

CN Lipase, lipoprotein (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9026-00-0 HCAPLUS

CN Esterase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9028-76-6 HCAPLUS

CN Oxidase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 67775-34-2 HCAPLUS

CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L88 ANSWER 21 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:170387 HCAPLUS

DN 128:280548

ED Entered STN: 23 Mar 1998

TI Homogeneous assay for measuring low-density lipoprotein cholesterol in serum with triblock copolymer and  $\alpha$ -cyclodextrin sulfate

AU Sugiuchi, Hiroyuki; Irie, Tetsumi; Uji, Yoshinori; Ueno, Tomohiro; Chaen,



Toshiko; Uekama, Kaneto; Okabe, Hiroaki  
 CS Department of Central Laboratory, Kumamoto University Hospital, Kumamoto,  
 860, Japan  
 SO Clinical Chemistry (Washington, D. C.) (1998), 44(3), 522-531  
 CODEN: CLCHAU; ISSN: 0009-9147  
 PB American Association for Clinical Chemistry  
 DT Journal  
 LA English  
 CC 9-16 (Biochemical Methods)  
 Section cross-reference(s): 14  
 AB We have developed a fully automated method for measuring LDL-  
**cholesterol** (LDL-C) in human serum without the need for prior  
 separation, using a **nonionic surfactant**,  
 polyoxyethylene-polyoxypropylene block copolyether (POE-POP), and a sodium  
 salt of sulfated cyclic maltohexose,  $\alpha$ -cyclodextrin sulfate. Of the  
**surfactants** tested, POE-POP with a higher mol. mass of the POP  
 block and a greater hydrophobicity reduced the reactivity of  
**cholesterol** in **lipoprotein** fractions; the reactivity in  
 descending order was LDL  $\gg$  VLDL  $>$  chylomicron  $\approx$  **HDL**  
 . Gel filtration chromatog. studies revealed that POE-POP removed lipids  
 selectively from the LDL fraction and allowed them to participate in the  
**cholesterol esterase-cholesterol**  
**oxidase** coupling reaction system. By contrast,  
 $\alpha$ -cyclodextrin sulfate reduced the reactivity of **cholesterol**  
 , especially in chylomicrons and VLDL. A combination of POE-POP with  
 $\alpha$ -cyclodextrin sulfate provided the required selectivity for the  
 determination of LDL-C in serum in the presence of magnesium ions and a small  
 amount  
 of dextran sulfate without precipitating **lipoprotein** aggregates. There  
 was a good correlation between the results of LDL-C assayed by the  
 proposed method and the beta-quantification reference method involving 161 sera  
 with triglyceride concns. ranging from 0.3 to 22.6 mmol/L.  
 ST LDL blood triblock copolymer cyclodextrin sulfate; polyoxyethylene  
 polyoxypropylene block copolyether LDL detn  
 IT **Surfactants**  
 (amphoteric; homogeneous assay for measuring low-d. **lipoprotein**  
**cholesterol** in serum with triblock copolymer and  
 $\alpha$ -cyclodextrin sulfate)  
 IT **Surfactants**  
 (anionic; homogeneous assay for measuring low-d. **lipoprotein**  
**cholesterol** in serum with triblock copolymer and  
 $\alpha$ -cyclodextrin sulfate)  
 IT **Surfactants**  
 (cationic; homogeneous assay for measuring low-d. **lipoprotein**  
**cholesterol** in serum with triblock copolymer and  
 $\alpha$ -cyclodextrin sulfate)  
 IT Blood analysis  
 High-performance gel-permeation chromatography  
 Immunoassay  
 Sample preparation  
**Surfactants**  
 UV and visible spectroscopy  
 (homogeneous assay for measuring low-d. **lipoprotein**  
**cholesterol** in serum with triblock copolymer and  
 $\alpha$ -cyclodextrin sulfate)  
 IT Lipids, biological studies  
 RL: ADV (Adverse effect, including toxicity); BOC (Biological occurrence);  
 BSU (Biological study, unclassified); BIOL (Biological study); OCCU  
 (Occurrence)  
 (hyperlipidemia; homogeneous assay for measuring low-d.  
**lipoprotein cholesterol** in serum with triblock  
 copolymer and  $\alpha$ -cyclodextrin sulfate)  
 IT **Lipoproteins**

RL: ANT (Analyte); ANST (Analytical study)  
(low-d.; homogeneous assay for measuring low-d. **lipoprotein cholesterol** in serum with triblock copolymer and  $\alpha$ -cyclodextrin sulfate)

IT **Surfactants**

(nonionic; homogeneous assay for measuring low-d. **lipoprotein cholesterol** in serum with triblock copolymer and  $\alpha$ -cyclodextrin sulfate)

IT **57-88-5, Cholest-5-en-3-ol (3 $\beta$ )-, biological studies**

RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)  
(blood; homogeneous assay for measuring low-d. **lipoprotein cholesterol** in serum with triblock copolymer and  $\alpha$ -cyclodextrin sulfate)

IT **9026-00-0, Cholesterol esterase**

**9028-76-6, Cholesterol oxidase**

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(homogeneous assay for measuring low-d. **lipoprotein cholesterol** in serum with triblock copolymer and  $\alpha$ -cyclodextrin sulfate)

IT **635-65-4, Bilirubin, analysis 1132-61-2, 4-Morpholinepropanesulfonic acid 7786-30-3, Magnesium chloride, analysis**

RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(homogeneous assay for measuring low-d. **lipoprotein cholesterol** in serum with triblock copolymer and  $\alpha$ -cyclodextrin sulfate)

IT **37191-70-1,  $\alpha$ -Cyclodextrin sulfate, sodium salt 106392-12-5**

RL: ARU (Analytical role, unclassified); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process)  
(homogeneous assay for measuring low-d. **lipoprotein cholesterol** in serum with triblock copolymer and  $\alpha$ -cyclodextrin sulfate)

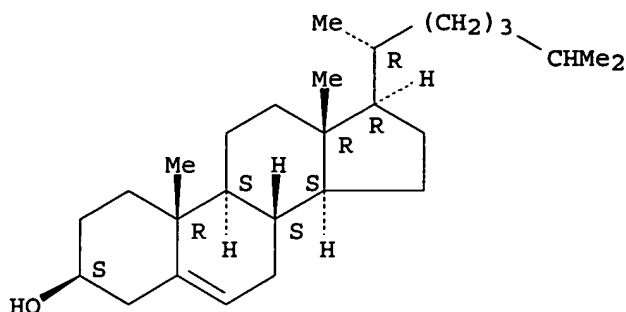
RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD

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- (20) Nauck, M; Clin Chem 1995, V41, P1761 HCAPLUS
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- (23) Sugiuchi, H; Clin Chem 1995, V41, P717 HCAPLUS
- (24) Sugiuchi, H; Proceedings of the 7th International Symposium on Cyclodextrins 1994, P532
- (25) Tanaka, U; Handbook of statistical analysis by personal computer II:

CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 9026-00-0, Cholesterol esterase

9028-76-6, Cholesterol oxidase

67775-34-2, Cholesterol dehydrogenase

RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(test reagent containing exogenous albumin for determination of serum or plasma HDL-cholesterol)

RN 9026-00-0 HCAPLUS

CN Esterase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9028-76-6 HCAPLUS

CN Oxidase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 67775-34-2 HCAPLUS

CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L88 ANSWER 23 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1996:509686 HCAPLUS

DN 125:137205

ED Entered STN: 27 Aug 1996

TI Enzyme method for quantitating cholesterol in lipoprotein fraction

IN Totsu, Yoshifumi; Shirahase, Yasushi; Takahashi, Masamitsu; Kishi, Koji

PA Kokusai Shaku Kk, Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C12Q001-32

ICS C12Q001-60

CC 9-2 (Biochemical Methods)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08131195	A2	19960528	JP 1994-318835	19941221
PRAI	JP 1994-217716		19940912		

AB The method comprises treatment of serum lipoprotein fraction with dextran sulfate, and determination of cholesterol content with cholesterol dehydrogenase. The method is useful for automating cholesterol anal. and for diagnosis of arteriosclerosis. In example, cholesterol content in

AB The disclosed test reagent comprises **cholesterol esterase, cholesterol oxidase, cholesterol dehydrogenase**, polyanion, divalent metal salt, **nonionic surfactant** and albumin that is different from the endogenous albumin of serum or plasma sample. The test reagent is suitable for use in an automatic anal. apparatus

ST **albumin reagent** automated analyzer **HDL cholesterol**

IT Polyelectrolytes  
(anionic; test reagent containing exogenous albumin for determination of serum or plasma **HDL-cholesterol**)

IT Lipids, analysis  
RL: AMX (Analytical matrix); PUR (Purification or recovery); ANST (Analytical study); PREP (Preparation)  
(fraction; test reagent containing exogenous albumin for determination of serum or plasma **HDL-cholesterol**)

IT **Lipoproteins**  
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(**high-d.**; test reagent containing exogenous albumin for determination of serum or plasma **HDL-cholesterol**)

IT Heart, disease  
(infarction; test reagent containing exogenous albumin for determination of serum or plasma **HDL-cholesterol**)

IT **Surfactants**  
(**nonionic**; test reagent containing exogenous albumin for determination of serum or plasma **HDL-cholesterol**)

IT Arteriosclerosis  
Blood plasma  
Blood serum  
(test reagent containing exogenous albumin for determination of serum or plasma **HDL-cholesterol**)

IT Albumins, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(test reagent containing exogenous albumin for determination of serum or plasma **HDL-cholesterol**)

IT Salts, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(two-one; test reagent containing exogenous albumin for determination of serum or plasma **HDL-cholesterol**)

IT **57-88-5, Cholesterol, analysis**  
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(test reagent containing exogenous albumin for determination of serum or plasma **HDL-cholesterol**)

IT **9026-00-0, Cholesterol esterase**  
**9028-76-6, Cholesterol oxidase**  
**67775-34-2, Cholesterol dehydrogenase**  
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(test reagent containing exogenous albumin for determination of serum or plasma **HDL-cholesterol**)

IT **29836-26-8 78617-12-6 85618-21-9**  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(test reagent containing exogenous albumin for determination of serum or plasma **HDL-cholesterol**)

IT **57-88-5, Cholesterol, analysis**  
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(test reagent containing exogenous albumin for determination of serum or plasma **HDL-cholesterol**)

RN **57-88-5 HCAPLUS**

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IT 57-88-5, Cholest-5-en-3-ol (3 $\beta$ )-, biological studies

RL: BOC (Biological occurrence); BSU (Biological study, unclassified);

BIOL (Biological study); OCCU (Occurrence)

(blood; homogeneous assay for measuring low-d. **lipoprotein**

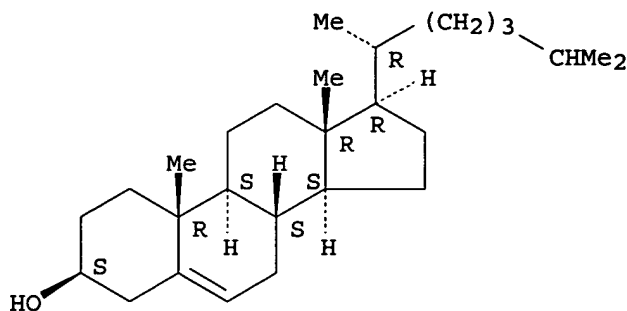
**cholesterol** in serum with triblock copolymer and

$\alpha$ -cyclodextrin sulfate)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 9026-00-0, Cholesterol esterase

9028-76-6, Cholesterol oxidase

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

(homogeneous assay for measuring low-d. **lipoprotein**

**cholesterol** in serum with triblock copolymer and

$\alpha$ -cyclodextrin sulfate)

RN 9026-00-0 HCAPLUS

CN Esterase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9028-76-6 HCAPLUS

CN Oxidase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L88 ANSWER 22 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1997:717699 HCAPLUS

DN 128:32112

ED Entered STN: 13 Nov 1997

TI Test reagent for determination of **HDL-**

**cholesterol** in lipid fraction of serum or plasma

IN Fujii, Takayuki; Tsubota, Hiroyuki; Hama, Michio; Kazahaya, Kenji;

Tsuchiya, Hozumi

PA Iatron Laboratories, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C12Q001-60

ICS G01N033-92

CC 9-5 (Biochemical Methods)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09285298	A2	19971104	JP 1996-122825	19960422
PRAI	JP 1996-122825		19960422		

**HDL** was determined by the disclosed method.

ST **lipoprotein HDL cholesterol blood analysis**

IT **dehydrogenase**

IT **Arteriosclerosis**

Blood analysis  
(aggregation treatment with dextran sulfate and **enzyme** anal.  
with **cholesterol dehydrogenase** for determination of  
**cholesterol** content in serum **lipoprotein** or  
**HDL** fraction)

IT **Lipoproteins**

RL: AMX (Analytical matrix); ANST (Analytical study)  
(aggregation treatment with dextran sulfate and **enzyme** anal.  
with **cholesterol dehydrogenase** for determination of  
**cholesterol** content in serum **lipoprotein** or  
**HDL** fraction)

IT **Analysis**

(apparatus, automated; aggregation treatment with dextran sulfate and  
**enzyme** anal. with **cholesterol dehydrogenase**  
for determination of **cholesterol** content in serum **lipoprotein**  
or **HDL** fraction)

IT **Lipoproteins**

RL: AMX (Analytical matrix); ANST (Analytical study)  
(high-d., aggregation treatment with dextran  
sulfate and **enzyme** anal. with **cholesterol**  
**dehydrogenase** for determination of **cholesterol** content in  
serum **lipoprotein** or **HDL** fraction)

IT **57-88-5, Cholesterol, analysis**

RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical  
study); BIOL (Biological study); USES (Uses)  
(aggregation treatment with dextran sulfate and **enzyme** anal.  
with **cholesterol dehydrogenase** for determination of  
**cholesterol** content in serum **lipoprotein** or  
**HDL** fraction)

IT **67775-34-2, Cholesterol dehydrogenase**

RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical  
study); BIOL (Biological study); USES (Uses)  
(aggregation treatment with dextran sulfate and **enzyme** anal.  
with **cholesterol dehydrogenase** for determination of  
**cholesterol** content in serum **lipoprotein** or  
**HDL** fraction)

IT **1871-22-3D, Tetrazolium blue, analogs**

RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(aggregation treatment with dextran sulfate and **enzyme** anal.  
with **cholesterol dehydrogenase** for determination of  
**cholesterol** content in serum **lipoprotein** or  
**HDL** fraction)

IT **9042-14-2, Dextran sulfate**

RL: ARU (Analytical role, unclassified); BUU (Biological use,  
unclassified); ANST (Analytical study); BIOL (Biological study); USES  
(Uses)  
(aggregation treatment with dextran sulfate and **enzyme** anal.  
with **cholesterol dehydrogenase** for determination of  
**cholesterol** content in serum **lipoprotein** or  
**HDL** fraction)

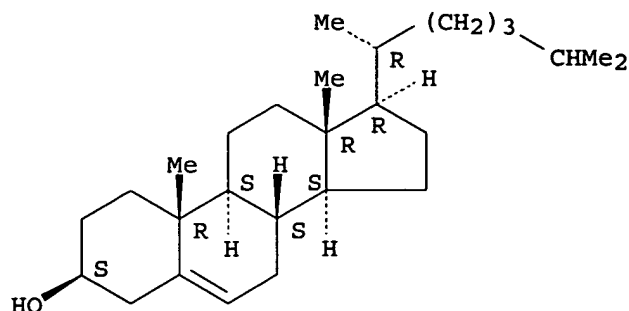
IT **57-88-5, Cholesterol, analysis**

RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical  
study); BIOL (Biological study); USES (Uses)  
(aggregation treatment with dextran sulfate and **enzyme** anal.  
with **cholesterol dehydrogenase** for determination of  
**cholesterol** content in serum **lipoprotein** or  
**HDL** fraction)

RN **57-88-5 HCAPLUS**

CN **Cholest-5-en-3-ol (3 $\beta$ ) - (9CI) (CA INDEX NAME)**

Absolute stereochemistry.



IT 67775-34-2, **Cholesterol dehydrogenase**  
 RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
 (aggregation treatment with dextran sulfate and **enzyme** anal.  
 with **cholesterol dehydrogenase** for determination of  
**cholesterol** content in serum **lipoprotein** or  
**HDL** fraction)  
 RN 67775-34-2 HCAPLUS  
 CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L88 ANSWER 24 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1996:304086 HCAPLUS  
 DN 124:337325  
 ED Entered STN: 23 May 1996  
 TI **Reagent** composition containing **cholesterol**  
**dehydrogenase** for quantitating **cholesterol**  
 IN Kishi, Koji; Shirahase, Yasushi; Totsu, Yoshifumi  
 PA Kokusai Shaku Kk, Japan  
 SO Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C12Q001-32  
 CC 9-2 (Biochemical Methods)  
 Section cross-reference(s): 17

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08070894	A2	19960319	JP 1994-216258	19940909
PRAI	JP 1994-216258		19940909		
AB	<b>Cholesterol dehydrogenase</b> is used in a <b>thionAD</b> <b>-NAD</b> cycling-based reaction for <b>cholesterol</b> determination in clin. sample or food.				
ST	<b>cholesterol dehydrogenase thionAD</b> <b>NAD</b> food clin				
IT	Diagnosis Food				

(Reagent composition containing **cholesterol**  
**dehydrogenase** and **thionAD** and **NAD** for  
quantitating **cholesterol** in clin. or food sample)  
IT 57-88-5, **Cholesterol**, analysis  
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(Reagent composition containing **cholesterol**  
**dehydrogenase** and **thionAD** and **NAD** for

quantitating cholesterol in clin. or food sample)

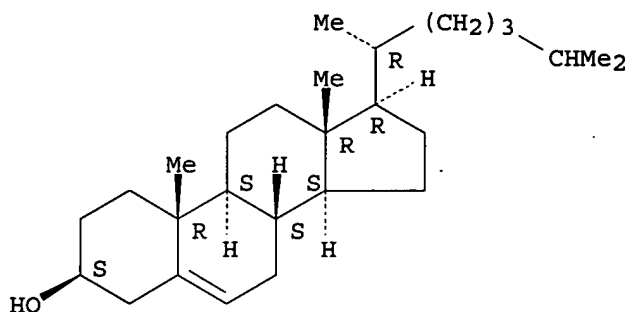
IT 67775-34-2, **Cholesterol dehydrogenase**  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (Reagent composition containing **cholesterol dehydrogenase** and **thionAD** and **NAD** for quantitating cholesterol in clin. or food sample)

IT 53-84-9, **NAD 4090-29-3, ThionAD**  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (Reagent composition containing **cholesterol dehydrogenase** and **thionAD** and **NAD** for quantitating cholesterol in clin. or food sample)

IT 57-88-5, **Cholesterol, analysis**  
 RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
 (Reagent composition containing **cholesterol dehydrogenase** and **thionAD** and **NAD** for quantitating cholesterol in clin. or food sample)

RN 57-88-5 HCAPLUS  
 CN Cholest-5-en-3-ol (3 $\beta$ ) - (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 67775-34-2, **Cholesterol dehydrogenase**  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (Reagent composition containing **cholesterol dehydrogenase** and **thionAD** and **NAD** for quantitating cholesterol in clin. or food sample)

RN 67775-34-2 HCAPLUS  
 CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

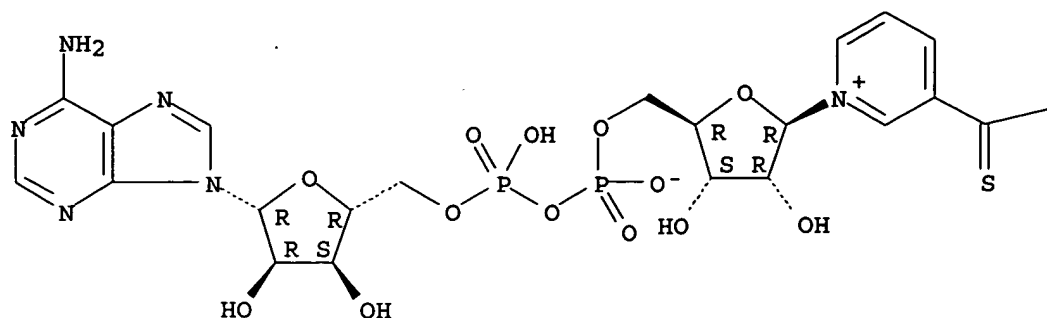
IT 4090-29-3, **ThionAD**  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (Reagent composition containing **cholesterol dehydrogenase** and **thionAD** and **NAD** for quantitating cholesterol in clin. or food sample)

RN 4090-29-3 HCAPLUS  
 CN Adenosine 5'-(trihydrogen diphosphate), P'→5'-ester with 3-(aminothioxomethyl)-1- $\beta$ -D-ribofuranosylpyridinium, inner salt (9CI)  
 (CA INDEX NAME)

Absolute stereochemistry.



PAGE 1-A



PAGE 1-B

—NH<sub>2</sub>

L88 ANSWER 25 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1995:899205 HCAPLUS  
 DN 123:280313  
 ED Entered STN: 07 Nov 1995  
 TI Method for quantitatively analyzing a component in a **lipoprotein** fraction.  
 IN Hashiguchi, Yoichi; Ikeda, Masaflumi; Kakuyama, Tsutomu  
 PA International Reagents Corp., Japan  
 SO Eur. Pat. Appl., 8 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 IC ICM G01N033-92  
 ICS C12Q001-60  
 CC 9-16 (Biochemical Methods)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 676642	A1	19951011	EP 1995-105024	19950404
	R: DE, FR, GB				
	JP 07280812	A2	19951027	JP 1994-66998	19940405
	JP 3107492	B2	20001106		
PRAI	JP 1994-66998	A	19940405		

AB A component such as **cholesterol** contained in a specific **lipoprotein** fraction in a biol. sample is quant. analyzed by agglutinating the specific **lipoprotein** fraction, leading a component, which is contained in **lipoprotein** fractions other than the specific **lipoprotein** fraction and is the same as the component to be analyzed, to a different reaction system which does not take part in the quant. anal.; dissolving the once agglutinated specific **lipoprotein** fraction, subjecting the specific **lipoprotein** fraction to a quant. reaction, and measuring a degree of a change caused by the quant. reaction to determine an amount of the component in the specific **lipoprotein** fraction.  
 ST quant analyzing component **lipoprotein**  
 IT Blood analysis  
 (method for quant. analyzing a component in a **lipoprotein**

fraction.)

IT **Lipoproteins**  
 RL: ANT (Analyte); ANST (Analytical study)  
 (method for quant. analyzing a component in a lipoprotein fraction.)

IT **Lipoproteins**  
 RL: ANT (Analyte); ANST (Analytical study)  
 (low-d., method for quant. analyzing a component in a lipoprotein fraction.)

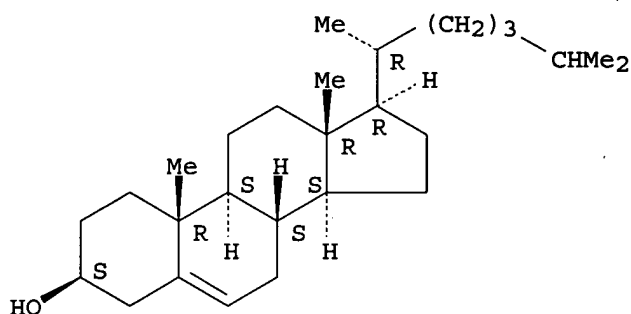
IT **57-88-5, Cholesterol, analysis**  
 RL: ANT (Analyte); ANST (Analytical study)  
 (method for quant. analyzing a component in a lipoprotein fraction.)

IT **57-88-5, Cholesterol, analysis**  
 RL: ANT (Analyte); ANST (Analytical study)  
 (method for quant. analyzing a component in a lipoprotein fraction.)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L88 ANSWER 26 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1993:576658 HCAPLUS

DN 119:176658

ED Entered STN: 30 Oct 1993

TI **Enzymic** determination of **cholesterol** in wide spectrum of pH

IN **Kishi, Koji**; Shirahase, Yasushi; Totsu, Yoshifumi

PA Kokusai Shaku Kk, Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.  
 CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C12Q001-60  
 ICS C12Q001-32

CC 7-1 (Enzymes)

Section cross-reference(s): 9

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05176797	A2	19930720	JP 1991-359044	19911227
	JP 2994831	B2	19991227		
PRAI	JP 1991-359044		19911227		

AB The end-point determination of **cholesterol** (I) in clin. anal. with I **dehydrogenase** in a wide spectrum of pH is given. The method comprises addition of a **hydrazine hydrate** or salts or derivs. in the reaction mixture The method is easy and can be automated. Moreover, the reverse reaction of I **dehydrogenase** is prevented.

ST enzymic detn cholesterol wide spectrum pH; clin  
analysis cholesterol dehydrogenase hydrazine  
hydrate

IT 67775-34-2, Cholesterol dehydrogenase  
RL: ANST (Analytical study)  
(cholesterol determination with, in wide spectrum of pH, addition of  
hydrazine hydrates and salts and derivs. in)

IT 57-88-5, Cholesterol, analysis  
RL: ANT (Analyte); ANST (Analytical study)  
(determination of, with cholesterol dehydrogenase in wide  
spectrum of pH, addition of hydrazine hydrates and  
salts and derivs. in)

IT 302-01-2, Hydrazine, properties  
RL: PRP (Properties)  
(hydrate, determination of cholesterol with cholesterol  
dehydrogenase in wide spectrum of pH in presence of)

IT 67775-34-2, Cholesterol dehydrogenase  
RL: ANST (Analytical study)  
(cholesterol determination with, in wide spectrum of pH, addition of  
hydrazine hydrates and salts and derivs. in)

RN 67775-34-2 HCAPLUS

CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

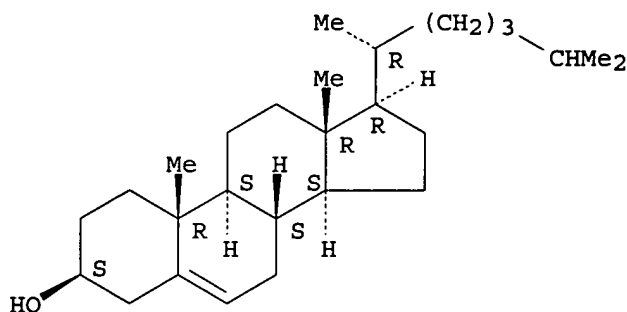
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 57-88-5, Cholesterol, analysis  
RL: ANT (Analyte); ANST (Analytical study)  
(determination of, with cholesterol dehydrogenase in wide  
spectrum of pH, addition of hydrazine hydrates and  
salts and derivs. in)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 302-01-2, Hydrazine, properties  
RL: PRP (Properties)  
(hydrate, determination of cholesterol with cholesterol  
dehydrogenase in wide spectrum of pH in presence of)

RN 302-01-2 HCAPLUS

CN Hydrazine (7CI, 8CI, 9CI) (CA INDEX NAME)

H<sub>2</sub>N-NH<sub>2</sub>

L88 ANSWER 27 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 1989:228154 HCAPLUS  
DN 110:228154  
ED Entered STN: 25 Jun 1989

TI Method and reagent for specific determination of **high-density lipoprotein cholesterol**  
 IN Kerscher, Lorenz; Pautz, Brigitte; Trunk, Gisela; Ziegenhorn, Joachim  
 PA Boehringer Mannheim G.m.b.H., Fed. Rep. Ger.  
 SO Ger. Offen., 12 pp.  
 CODEN: GWXXBX  
 DT Patent  
 LA German  
 IC ICM C12Q001-60  
 ICS G01N033-68; G01N033-92; C12Q001-44  
 ICA C12Q001-26  
 CC 9-5 (Biochemical Methods)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3636851	A1	19880511	DE 1986-3636851	19861029
	US 4892815	A	19900109	US 1987-107467	19871006
	CA 1309645	A1	19921103	CA 1987-549035	19871009
	JP 63126498	A2	19880530	JP 1987-269522	19871027
	JP 07034760	B4	19950419		
	FI 8704749	A	19880430	FI 1987-4749	19871028
	FI 90882	B	19931231		
	EP 265933	A2	19880504	EP 1987-115841	19871028
	EP 265933	A3	19891206		
	EP 265933	B1	19930203		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	AU 8780446	A1	19880505	AU 1987-80446	19871028
	AU 588143	B2	19890907		
	AT 85366	E	19930215	AT 1987-115841	19871028
PRAI	DE 1986-3636851		19861029		
	EP 1987-115841		19871028		

AB The **cholesterol** content of the **high d. lipoprotein (HDL)** fraction of serum is determined **enzymically** in the presence of low-d. **lipoproteins (LDL)** by incubation of the sample with **cholesterol esterase (I)**, **cholesterol oxidase (II)**, and O<sub>2</sub> under specified reaction conditions and in the presence of a bile acid-type **surfactant** and kinetic measurement of the H<sub>2</sub>O<sub>2</sub> formed over the period 2-15 min after the start of the II reaction. The **LDL cholesterol** is oxidized principally during the initial period of the II reaction, so that the rate of H<sub>2</sub>O<sub>2</sub> production during the subsequent phase is proportional to the **HDL cholesterol** concentration. Human sera (0.02 mL) with equal **LDL cholesterol** contents at different **HDL cholesterol** contents were incubated at 30° with 2.0 mL of a **reagent** containing 0.1M K phosphate buffer (pH 6.7), 8.6 mM tribromohydroxybenzoic acid, 1.6 mM 4-aminoantipyrine, 3 mM Na cholate, 0.1% PEG 6000, 0.1% Thesit, swine pancreas I (1 unit/mL), Nocardia II (1 unit/mL), and **peroxidase** (2.5 units/mL). The initial rate of increase in absorbance at 546 nm was largely independent of the **HDL cholesterol** concentration, whereas from 6 min on the rate of increase was proportional to the **HDL cholesterol** concentration.

ST **cholesterol detn high density lipoprotein; serum lipoprotein cholesterol detn**

IT Blood analysis  
 (cholesterol determination in **high-d. lipoproteins** of, **enzymic**)

IT Bile acids  
 RL: ANST (Analytical study)  
 (in **cholesterol** determination in **high-d. lipoproteins** of blood serum)

IT Antibodies

RL: ANST (Analytical study)  
(to apolipoprotein B and low-d. lipoprotein, in  
cholesterol enzymic determination in high-d  
. lipoproteins of blood serum)

IT **Lipoproteins**

RL: ANST (Analytical study)  
(apo-, B, antibodies to, in cholesterol enzymic  
determination in high-d. lipoproteins of blood  
serum)

IT **Lipoproteins**

RL: ANST (Analytical study)  
(high-d., cholesterol of, determination of, in  
blood serum, enzymic)

IT **Lipoproteins**

RL: ANST (Analytical study)  
(low-d., cholesterol of high-d.  
lipoproteins determination in blood serum in presence of,  
enzymic)

IT **Surfactants**

(nonionic, in cholesterol determination in high-  
d. lipoproteins of blood serum)

IT **57-88-5, Cholesterol, analysis**

RL: ANT (Analyte); ANST (Analytical study)  
(determination of, of high-d. lipoproteins of  
blood serum, enzymic)

IT **361-09-1, Sodium cholate 9002-92-0, Thesit 9026-00-0,  
Cholesterol esterase 9028-76-6,  
Cholesterol oxidase 25322-68-3, Poly(ethylene oxide)**

RL: ANST (Analytical study)  
(in cholesterol determination in high-d.  
lipoproteins of blood serum)

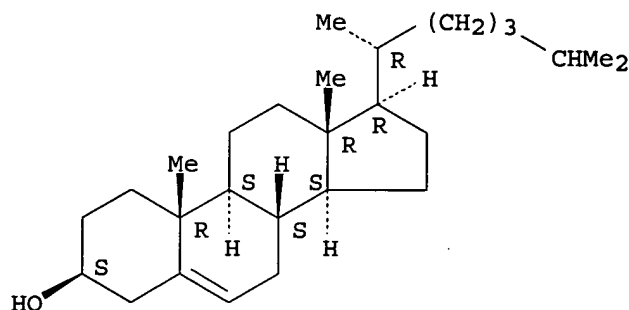
IT **57-88-5, Cholesterol, analysis**

RL: ANT (Analyte); ANST (Analytical study)  
(determination of, of high-d. lipoproteins of  
blood serum, enzymic)

RN 57-88-5 HCAPLUS

CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **9026-00-0, Cholesterol esterase  
9028-76-6, Cholesterol oxidase**  
RL: ANST (Analytical study)  
(in cholesterol determination in high-d.  
lipoproteins of blood serum)

RN 9026-00-0 HCAPLUS

CN Esterase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9028-76-6 HCAPLUS

CN Oxidase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L88 ANSWER 28 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1983:212038 HCAPLUS

DN 98:212038

ED Entered STN: 12 May 1984

TI Interaction of lecithin-**cholesterol** acyltransferase with human plasma **lipoproteins** and with lecithin-**cholesterol** vesicles

AU Yamazaki, Shojiro; Mitsunaga, Toshio; Furukawa, Yuji; Nishida, Toshiro

CS Dep. Food Sci., Univ. Illinois, Urbana, IL, 61801, USA

SO Journal of Biological Chemistry (1983), 258(9), 5847-53

CODEN: JBCHA3; ISSN: 0021-9258

DT Journal

LA English

CC 7-3 (Enzymes)

AB The interaction of lecithin-**cholesterol** acyltransferase with various classes of human plasma **lipoproteins** and with lecithin-**cholesterol** vesicles was studied to clarify the factors governing the affinity of the **enzyme** for **lipoprotein** particles. High-d. **lipoprotein** 2 (HDL2) and high -d. **lipoprotein** 3 (HDL3) efficiently associated with the **enzyme** in 39 mM phosphate buffer, pH 7.4, containing 60 mM NaCl (ionic strength, 0.16), whereas low-d. **lipoproteins** (LDL) and very-low-d. **lipoproteins** (VLDL) had a very limited affinity for the **enzyme** in the same medium. An increase in the ionic strength of 0.5, however, caused a considerable increase in the affinity of both LDL and VLDL for the **enzyme**. Similarly, multilayer lecithin-**cholesterol** vesicles associated with the **enzyme** at the ionic strength of 0.5 but not at an ionic strength of 0.16. A substantially lower ionic strength was required to dissociate the **enzyme** from HDL2 and HDL3. The addition of apolipoprotein A-II (apo-A-II) or C-III1 (apo-C-III1) to the **enzyme**/HDL3 mixture in a medium of ionic strength 0.16 caused displacement of the **enzyme** and endogenous apolipoprotein A-I (apo-A-I) from the **lipoproteins**. A similar phenomenon was observed upon addition of apo-A-II or apo-C-III1 to a mixture of lecithin-**cholesterol** vesicles, apo-A-I, and the **enzyme**. On the other hand, the addition of apo-A-I to a mixture of the **enzyme** and HDL3 or the vesicles caused no significant displacement of the **enzyme**. The transfer of the **enzyme** from HDL3, linked covalently to Sepharose CL4B, to lecithin-**cholesterol** vesicles required pretreatment of the vesicles with apo-A-I.

ST lecithin **cholesterol** acyltransferase interaction **lipoprotein**; liposome interaction lecithin **cholesterol** acyltransferase

IT Blood plasma  
(lecithin-**cholesterol** acyltransferase of, of human, **lipoprotein** interactions with)

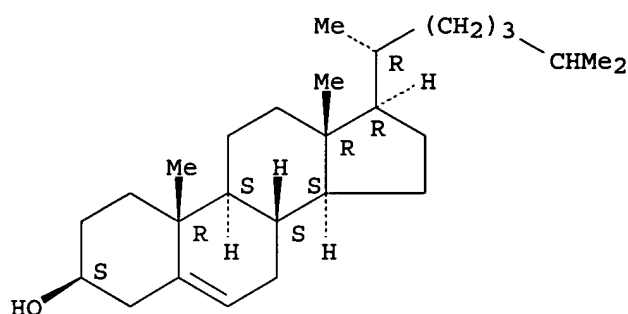
IT Liposome  
(lecithin-**cholesterol**, lecithin-**cholesterol** acyltransferase of human blood plasma interaction with)

IT Phosphatidylcholines, biological studies  
RL: BIOL (Biological study)  
(liposomes containing **cholesterol** and, lecithin-**cholesterol** acyltransferase of human blood plasma interaction with)

IT **Lipoproteins**  
RL: BIOL (Biological study)  
(of blood plasma, of human, lecithin-**cholesterol**

acyltransferase interaction with)  
 IT 57-88-5, biological studies  
 RL: BIOL (Biological study)  
 (liposomes containing lecithin and, lecithin-**cholesterol**  
 acyltransferase of human blood plasma interaction with)  
 IT 9031-14-5  
 RL: BIOL (Biological study)  
 (of blood plasma, of human, **lipoprotein** interactions with)  
 IT 57-88-5, biological studies  
 RL: BIOL (Biological study)  
 (liposomes containing lecithin and, lecithin-**cholesterol**  
 acyltransferase of human blood plasma interaction with)  
 RN 57-88-5 HCAPLUS  
 CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

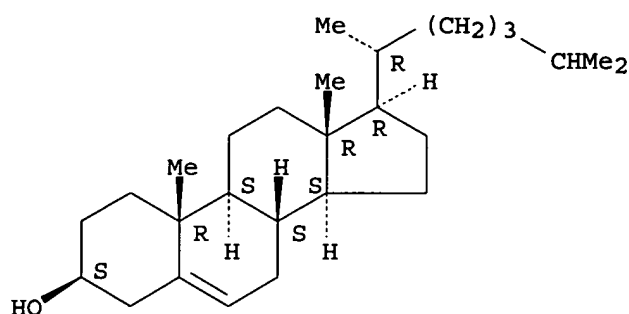
Absolute stereochemistry.



L88 ANSWER 29 OF 29 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1971:11187 HCAPLUS  
 DN 74:11187  
 ED Entered STN: 12 May 1984  
 TI **Quantitation of the invitro free cholesterol exchange**  
**of human red cells and lipoproteins**  
 AU Quarfordt, Steven H.; Hilderman, Helen L.  
 CS Med. Cent., Duke Univ., Durham, NC, USA  
 SO Journal of Lipid Research (1970), 11(6), 528-35  
 CODEN: JLPRAW; ISSN: 0022-2275  
 DT Journal  
 LA English  
 CC 11 (Mammalian Biochemistry)  
 GI For diagram(s), see printed CA Issue.  
 AB The flux of free **cholesterol** (I) in vitro between low density  
**lipoproteins** (LDL) and human red blood cells was relatively constant  
 over a wide range of concns. of free I in **lipoproteins**. In a  
 system containing a suspension of red blood cells in a mixed solution of  
**high density lipoproteins** (HDL) and  
 LDL, the fractional rate of exchange of **HDL** I was most rapid,  
 followed by LDL and lastly, by red cells. Increasing the **ionic**  
**strength** of the incubation media had no effect on the exchange of  
 I between LDL and red cells. However, when both **HDL** and LDL  
 were incubated with red cells in a buffer of increased **ionic**  
**strength**, total red cell I exchange was unaltered, but  
 proportionately more exchange occurred with **HDL** and less with  
 LDL. Addition of acetone to the buffer increased the exchange of I between  
 LDL and red cells but produced no increment in red cell-**HDL**  
 exchange.  
 ST **cholesterol** exchange erythrocytes; erythrocytes  
**cholesterol** exchange; **lipoproteins** **cholesterol**  
 exchangee; red cells **cholesterol**

IT **Lipoproteins**  
 RL: BIOL (Biological study)  
 (cholesterol of, erythrocytes in relation to)  
 IT Erythrocytes  
 (cholesterol of, lipoproteins in relation to)  
 IT 57-88-5, biological studies  
 RL: BIOL (Biological study)  
 (of erythrocytes, lipoproteins in relation to)  
 IT 57-88-5, biological studies  
 RL: BIOL (Biological study)  
 (of erythrocytes, lipoproteins in relation to)  
 RN 57-88-5 HCAPLUS  
 CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



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(FILE 'REGISTRY' ENTERED AT 06:53:53 ON 06 JUL 2004)

FILE 'REGISTRY' ENTERED AT 06:54:15 ON 06 JUL 2004

FILE 'HCAPLUS' ENTERED AT 06:54:25 ON 06 JUL 2004

E ENZYME/CT

L90	19072 S L46 AND E83+NT
L91	2270 S L46 AND E83+OLD, PFT
L92	79 S L46 AND E281
L93	1316 S L90-L92 AND L1 (L) (ANT OR ANST)/RL
L94	42 S L93 AND L42
L95	313 S L93 AND L43
L96	3 S L94 AND L95
L97	3 S L96 NOT L88
L98	36 S L94 NOT L97, L88
	SEL DN AN 9 18 30 34
L99	4 S L98 AND E1-E12
L100	4 S L99 AND (NAD OR NADP OR THIONAD OR THIONADP OR THIO()) (NAD OR
L101	4 S L99 AND L1-L6, L22-L26, L27-L30, L32, L34, L36, L38-L88, L90-L100
L102	4 S L99 AND (?CHOLESTER? OR ENZYM? OR ?LIPOPROTEIN? OR ?LIPASE?
L103	4 S L99-L102
L104	4 S L103 AND L89

=> d all hitstr tot

L104 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1996:437770 HCAPLUS

DN 125:81231

ED Entered STN: 25 Jul 1996

TI Enzymic assay for determination of cholesterol

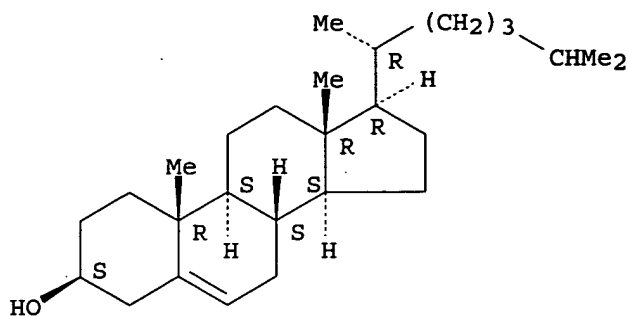


IN Atsuta, Yasushi; Matsuda, Ryosuke; Takano, Susumu  
 PA Wako Pure Chem Ind Ltd, Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C12Q001-60  
 ICS C12Q001-32; C12Q001-44  
 CC 9-1 (Biochemical Methods)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08103298	A2	19960423	JP 1994-264581	19941004
PRAI	JP 1994-264581		19941004		
AB	<b>Cholesterol is determined by using cholesterol dehydrogenase and oxidized form and reduced form coenzymes. Cholesterol esterase may also used. The coenzyme includes thio-NAD, thio-NADP, NAD, NADP, and analogs. The method is useful for clin. diagnosis and food anal.</b>				
ST	<b>cholesterol enzyme assay dehydrogenase esterase coenzyme</b>				
IT	Blood analysis Diagnosis Food analysis (determination of <b>cholesterol</b> using <b>cholesterol dehydrogenase</b> and coenzymes)				
IT	<b>57-88-5, Cholesterol, analysis</b> RL: ANT (Analyte); ANST (Analytical study) (determination of <b>cholesterol</b> using <b>cholesterol dehydrogenase</b> and coenzymes)				
IT	<b>9026-00-0, Cholesterol esterase</b> <b>67775-34-2, Cholesterol dehydrogenase</b> RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses) (determination of <b>cholesterol</b> using <b>cholesterol dehydrogenase</b> and coenzymes)				
IT	<b>53-59-8, NADP</b> <b>53-84-9, NAD</b> <b>86-08-8,</b> <b>Acetylpyridine adenine dinucleotide</b> <b>341-67-3, Acetylpyridine adenine</b> <b>dinucleotide phosphate</b> <b>1851-07-6, Nicotinamide hypoxanthine dinucleotide</b> <b>4090-29-3, Thio-NAD</b> <b>5815-05-4</b> <b>6739-64-6,</b> <b>Nicotinamide hypoxanthine dinucleotide phosphate</b> <b>19254-05-8,</b> <b>Thio-NADP</b> <b>37754-08-8, Thionicotinamide hypoxanthine</b> <b>dinucleotide</b> <b>138483-62-2</b> <b>145006-00-4</b> RL: ARU (Analytical role, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses) (determination of <b>cholesterol</b> using <b>cholesterol dehydrogenase</b> and coenzymes)				
IT	<b>57-88-5, Cholesterol, analysis</b> RL: ANT (Analyte); ANST (Analytical study) (determination of <b>cholesterol</b> using <b>cholesterol dehydrogenase</b> and coenzymes)				
RN	<b>57-88-5 HCAPLUS</b>				
CN	<b>Cholest-5-en-3-ol (3<math>\beta</math>) - (9CI) (CA INDEX NAME)</b>				

Absolute stereochemistry.



IT 9026-00-0, Cholesterol esterase  
 67775-34-2, Cholesterol dehydrogenase  
 RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
 (determination of cholesterol using cholesterol dehydrogenase and coenzymes)

RN 9026-00-0 HCAPLUS

CN Esterase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 67775-34-2 HCAPLUS

CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 53-59-8, NADP 4090-29-3, Thio-

NAD 19254-05-8, Thio-NADP

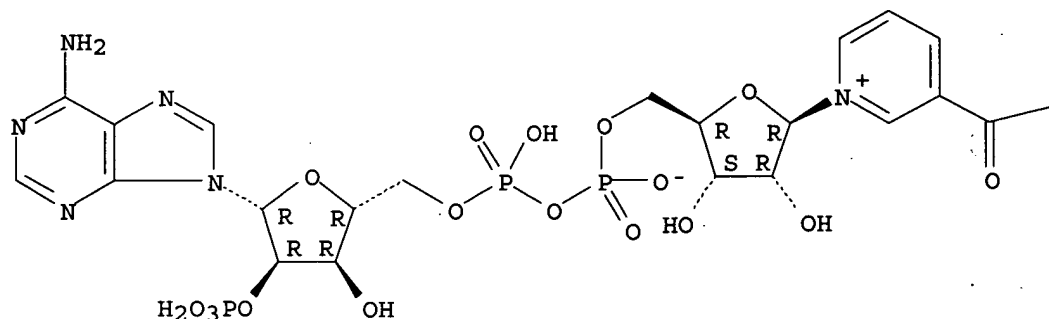
RL: ARU (Analytical role, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
 (determination of cholesterol using cholesterol dehydrogenase and coenzymes)

RN 53-59-8 HCAPLUS

CN Adenosine 5'-(trihydrogen diphosphate), 2'-(dihydrogen phosphate), P'→5'-ester with 3-(aminocarbonyl)-1-β-D-ribofuranosylpyridinium, inner salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

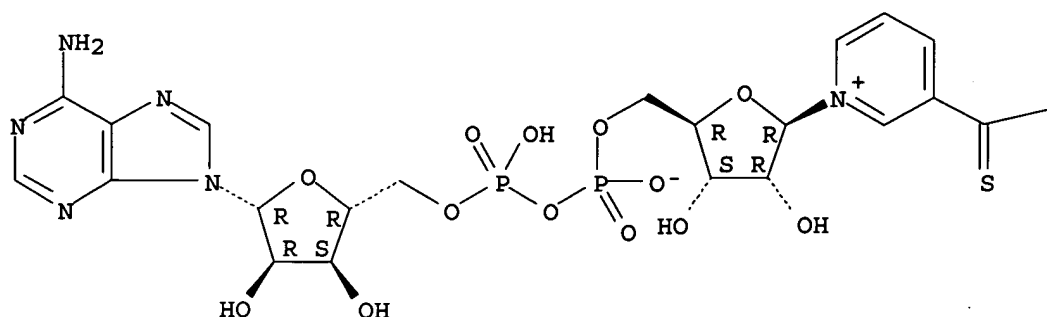
—NH<sub>2</sub>

RN 4090-29-3 HCAPLUS

CN Adenosine 5'-(trihydrogen diphosphate), P'→5'-ester with  
 3-(aminothioxomethyl)-1-β-D-ribofuranosylpyridinium, inner salt (9CI)  
 (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

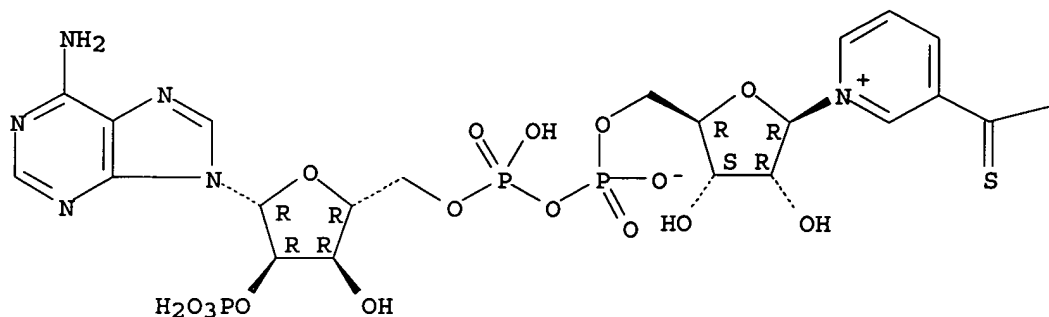
—NH<sub>2</sub>

RN 19254-05-8 HCAPLUS

CN Adenosine 5'-(trihydrogen diphosphate), 2'-(dihydrogen phosphate),  
 P'→5'-ester with 3-(aminothioxomethyl)-1-β-D-  
 ribofuranosylpyridinium, inner salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

—NH<sub>2</sub>

L104 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1990:95060 HCAPLUS  
 DN 112:95060  
 ED Entered STN: 18 Mar 1990  
 TI Simultaneous assay for **cholesterol** and triglycerides  
 IN Bates, Diane Marian; Alejos, Michael A.  
 PA Abbott Laboratories, USA  
 SO PCT Int. Appl., 21 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM C12Q001-00  
 ICS C12Q001-60  
 CC 9-5 (Biochemical Methods)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8902925	A1	19890406	WO 1988-US3169	19880920
	W: AU, JP, KR, US				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	AU 8824863	A1	19890418	AU 1988-24863	19880920
	EP 395654	A1	19901107	EP 1988-908629	19880920
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	JP 01108998	A2	19890426	JP 1988-237453	19880921
	CA 1323554	A1	19931026	CA 1988-578065	19880921
	AU 9222808	A1	19921119	AU 1992-22808	19920907
PRAI	US 1987-99890		19870922		
	WO 1988-US3169		19880920		

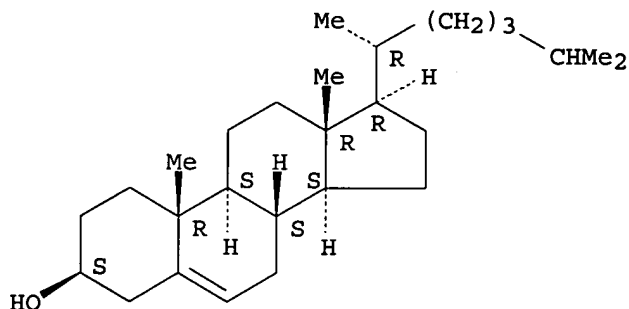
AB A method for the simultaneous determination of **cholesterol** and triglycerides uses a single **reagent** system. The **reagent** system is reacted with the specimen such that each of the substrates reacts with their resp. reactant simultaneously. The change in absorbance or fluorescence of the resulting reaction mixture is measured at a plurality of wavelengths which are characteristic for each of the substrates to be determined. The amount of **cholesterol** and triglyceride can be determined by either an endpoint or reaction rate measurement. The **reagent** system comprises an **enzyme** having **cholesterol esterase** activity, a chromogenic oxygen acceptor, **microperoxidase**, and **cholesterol oxidase** for determination of **cholesterol**; and **lipase**, ATP, PEP (phosphoenolpyruvate), glycerol kinase, pyruvate kinase, LDH (lactate dehydrogenase) and NAD(P)H or analogs thereof for determination of triglycerides. Thus, a **reagent** system containing Na cholate, 4-aminoantipyrine, PhOH, **lipase**, **cholesterol oxidase**, **microperoxidase**, NADH, PEP, ATP, MgSO<sub>4</sub>, Tris buffer, succinic acid, pyruvate kinase, glycerol kinase, and LDH was mixed with sample at a ratio of 101:1, resp., and after 3 min absorbance was read at 340 (triglyceride) and 500 nm (**cholesterol**). Concns. were determination by comparison to standard curves.

ST spectrometric **cholesterol** triglyceride detn **reagent**;  
 IT fluorometric **cholesterol** triglyceride detn **reagent**  
 Glycerides, analysis  
 RL: ANST (Analytical study)  
 (determination of **cholesterol** and, simultaneous, spectrophotometric,

reagent system for)

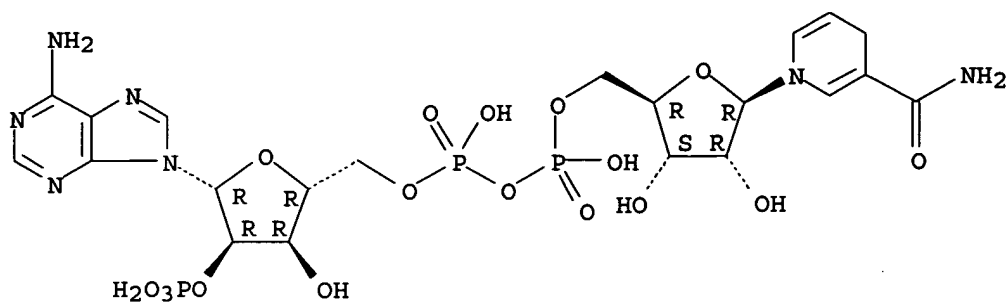
- IT Dyes  
(color formers, oxygen-accepting, in reagent system for simultaneous determination of cholesterol and triglycerides)
- IT 57-88-5, Cholesterol, analysis  
RL: ANST (Analytical study)  
(determination of triglycerides and, simultaneous, spectrophotometric, reagent system for)
- IT 53-57-6, NADPH 53-57-6D, NADPH,  
analogs 56-65-5, ATP, uses and miscellaneous 58-68-4, NADH 58-68-4D,  
NADH, analogs 83-07-8, 4-Aminoantipyrine 108-95-2, Phenol, uses and  
miscellaneous 138-08-9 9001-59-6, Pyruvate kinase  
9001-60-9, Lactate dehydrogenase 9001-62-1,  
Lipase 9007-43-6, Cytochrome c, uses and miscellaneous  
9026-00-0, Cholesterol esterase  
9028-76-6, Cholesterol oxidase  
9030-66-4, Glycerol kinase 19254-05-8, Thio  
NADP 67775-34-2, Cholesterol  
dehydrogenase  
RL: ANST (Analytical study)  
(in reagent system for simultaneous determination of  
cholesterol and triglycerides)
- IT 57-88-5, Cholesterol, analysis  
RL: ANST (Analytical study)  
(determination of triglycerides and, simultaneous, spectrophotometric,  
reagent system for)
- RN 57-88-5 HCAPLUS  
CN Cholest-5-en-3-ol (3 $\beta$ )- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



- IT 53-57-6, NADPH 53-57-6D, NADPH,  
analogs 9001-59-6, Pyruvate kinase 9001-60-9, Lactate  
dehydrogenase 9001-62-1, Lipase  
9026-00-0, Cholesterol esterase  
9028-76-6, Cholesterol oxidase  
9030-66-4, Glycerol kinase 19254-05-8, Thio  
NADP 67775-34-2, Cholesterol  
dehydrogenase  
RL: ANST (Analytical study)  
(in reagent system for simultaneous determination of  
cholesterol and triglycerides)
- RN 53-57-6 HCAPLUS  
CN Adenosine 5'-(trihydrogen diphosphate), 2'-(dihydrogen phosphate),  
P'→5'-ester with 1,4-dihydro-1- $\beta$ -D-ribofuranosyl-3-  
pyridinecarboxamide (9CI) (CA INDEX NAME)

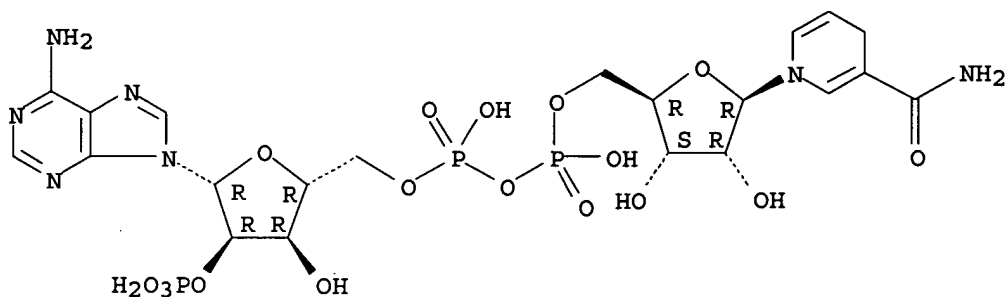
Absolute stereochemistry.



RN 53-57-6 HCAPLUS

CN Adenosine 5'-(trihydrogen diphosphate), 2'-(dihydrogen phosphate), P'→5'-ester with 1,4-dihydro-1-β-D-ribofuranosyl-3-pyridinecarboxamide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 9001-59-6 HCAPLUS

CN Kinase (phosphorylating), pyruvate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9001-60-9 HCAPLUS

CN Dehydrogenase, lactate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9001-62-1 HCAPLUS

CN Lipase, triacylglycerol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9026-00-0 HCAPLUS

CN Esterase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9028-76-6 HCAPLUS

CN Oxidase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9030-66-4 HCAPLUS

CN Kinase (phosphorylating), glycerol (9CI) (CA INDEX NAME)

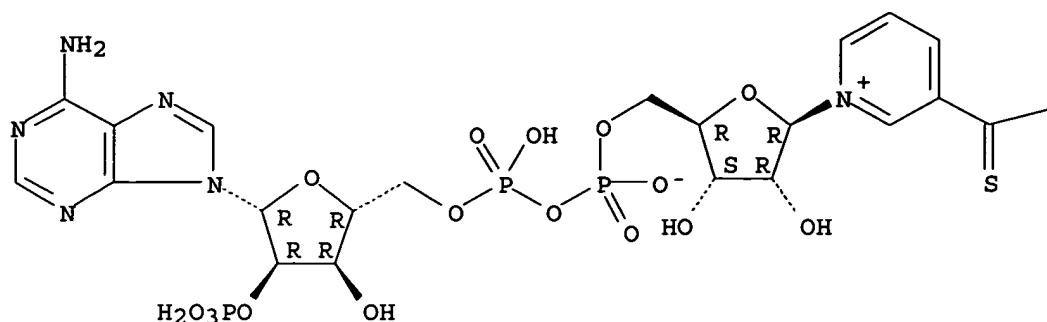
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 19254-05-8 HCAPLUS

CN Adenosine 5'-(trihydrogen diphosphate), 2'-(dihydrogen phosphate), P'→5'-ester with 3-(aminothioxomethyl)-1-β-D-ribofuranosylpyridinium, inner salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

—NH<sub>2</sub>

RN 67775-34-2 HCAPLUS  
 CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L104 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1982:177456 HCAPLUS

DN 96:177456

ED Entered STN: 12 May 1984

TI Determination of total **cholesterol**

IN Betz, Joachim

PA Battelle-Institut e. V., Fed. Rep. Ger.

SO Ger. Offen., 10 pp.

CODEN: GWXXBX

DT Patent

LA German

IC C12Q001-32

CC 9-2 (Biochemical Methods)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3032377	A1	19820401	DE 1980-3032377	19800828
	WO 8200833	A1	19820318	WO 1981-EP139	19810826

W: JP, US

RW: AT, CH, FR, GB, LU, NL, SE

PRAI DE 1980-3032377 19800828

AB A fully **enzymic** method is described for total **cholesterol** determination **Cholesterol** esters are converted to free **cholesterol** by **cholesterol esterase**.

The free **cholesterol** is then determined by measurement of **NAD** or **NADP** reduction by **cholesterol dehydrogenase**.

The source of both **enzymes** is *Streptomyces hydrogenans*.

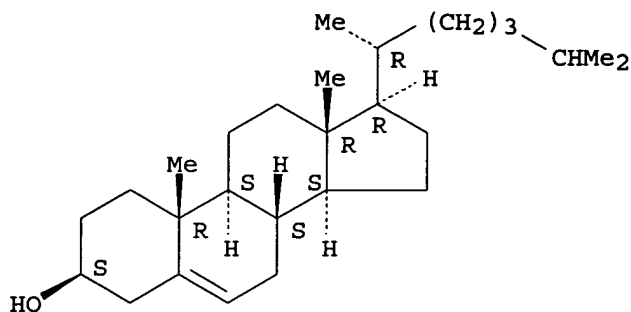
ST **cholesterol enzymic detn**

IT *Streptomyces hydrogenans*  
 (**cholesterol dehydrogenase** and **esterase**  
 of, in **cholesterol** determination)

IT 57-88-5, analysis

RL: ANT (Analyte); ANST (Analytical study)  
 (determination of, enzymic)  
 IT 9026-00-0 67775-34-2  
 RL: ANST (Analytical study)  
 (of Streptomyces hydrogenans, in cholesterol determination)  
 IT 57-88-5, analysis  
 RL: ANT (Analyte); ANST (Analytical study)  
 (determination of, enzymic)  
 RN 57-88-5 HCAPLUS  
 CN Cholest-5-en-3-ol (3 $\beta$ ) - (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 9026-00-0 67775-34-2  
 RL: ANST (Analytical study)  
 (of Streptomyces hydrogenans, in cholesterol determination)  
 RN 9026-00-0 HCAPLUS  
 CN Esterase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 67775-34-2 HCAPLUS  
 CN Dehydrogenase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L104 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1978:503271 HCAPLUS

DN 89:103271

ED Entered STN: 12 May 1984

TI Method and reagent for determining the total cholesterol  
 or bound cholesterol

IN Gruber, Wolfgang; Lang, Gunter; Nelboeck-Hochstetter, Michael; Roeschlau,  
 Peter; Seidel, Hans; Von Hoerschelmann, Detlef

PA Boehringer Mannheim G.m.b.H., Fed. Rep. Ger.

SO Ger. Offen., 13 pp. Addn. to Ger. Offen. 2,506,712.

CODEN: GWXXBX

DT Patent

LA German

IC G01N033-16

CC 9-6 (Biochemical Methods)

Section cross-reference(s): 7

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2649749	A1	19780511	DE 1976-2649749	19761029
	DE 2649749	C2	19870827		
	GB 1516820	A	19780705	GB 1977-32372	19770802
	NL 7709576	A	19780503	NL 1977-9576	19770831
	US 4181575	A	19800101	US 1977-842001	19771013
	CH 611712	A	19790615	CH 1977-13044	19771026



JP 53056090	A2	19780522	JP 1977-130199	19771028
FR 2369564	A2	19780526	FR 1977-32735	19771028
FR 2369564	B2	19830128		

PRAI DE 1973-2315501 19730328  
 DE 1973-2316637 19730403  
 GB 1974-13159 19740325  
 DE 1976-2649749 19761029

AB Total or esterified **cholesterol** (I) is determined by freeing esterified I with a I **esterase** and simultaneously or subsequently determining the free I with a I-converting **enzyme**, especially as described in Ger 2506712, such as an **NAD-** or **NADP**-dependent I **dehydrogenase** from an anaerobic microorganism or from the liver of a warm-blooded animal. Thus, 20 µL blood serum was added to 1 mL 0.1M K phosphate buffer (pH 7.5) containing 0.4% hydroxypolyethoxydodecane. After addition of 20 µL (2 units) I **esterase** and 50 µL I **dehydrogenase** (obtained from Eubacterium ATCC 21408), the mixture was incubated for 30 min at 25°. Then 2 mL 1 mM 2,4-dinitrophenylhydrazine-10% HCl solution was added to the mixture and incubated 30 min at 25°. After addition of 3 mL water, the absorbance of the sample was determined at 405 nm with the use of a suitable blank. A typical sample gave a value of 147 mg I/100 mL serum, compared to a value of 149 mg I/100 mL obtained by use of I **oxidase**.

ST serum **cholesterol** detn; **enzymic** detn  
**cholesterol**; Eubacterium **cholesterol**  
**dehydrogenase**; liver **cholesterol dehydrogenase**  
 ; **dehydrogenase cholesterol** Eubacterium liver

IT Eubacterium  
 Liver, composition  
 (cholesterol **dehydrogenase** of, **cholesterol**  
**enzymic** determination in relation to)

IT Blood analysis  
 (cholesterol determination in, **cholesterol**  
**dehydrogenase** in)

IT 119-26-6 9002-92-0  
 RL: ANST (Analytical study)  
 (cholesterol determination in medium containing)

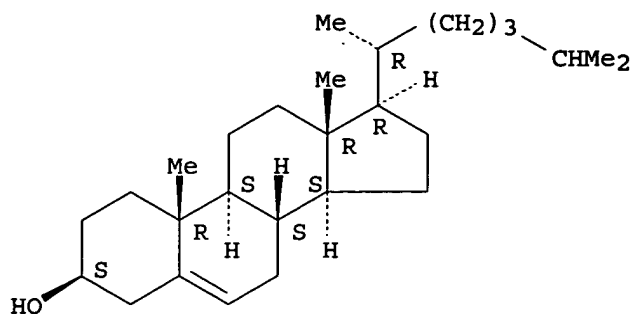
IT 57-88-5, analysis  
 RL: ANST (Analytical study)  
 (determination of bound and total, **cholesterol dehydrogenase**  
 in)

IT 9028-76-6  
 RL: ANST (Analytical study)  
 (of Eubacterium and rat liver, in **cholesterol enzymic**  
 determination)

IT 57-88-5, analysis  
 RL: ANST (Analytical study)  
 (determination of bound and total, **cholesterol dehydrogenase**  
 in)

RN 57-88-5 HCAPLUS  
 CN Cholest-5-en-3-ol (3β) - (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 9028-76-6

RL: ANST (Analytical study)

(of Eubacterium and rat liver, in **cholesterol enzymic**  
determination)

RN 9028-76-6 HCAPLUS

CN Oxidase, cholesterol (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

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(FILE 'HOME' ENTERED AT 06:12:05 ON 06 JUL 2004)  
SET COST OFF

FILE 'REGISTRY' ENTERED AT 06:12:21 ON 06 JUL 2004

L1 1 S CHOLESTEROL/CN  
E LIPOPROTEIN LIPASE/CN

L2 1 S E3  
E CHOLESTEROL ESTERASE/CN  
E CHOLESTEROL DEHYDROGENASE/CN

L4 1 S E3  
E CHOLESTEROL OXIDASE/CN

L5 1 S E3

L6 1 S HYDRAZINE/CN

L7 2882 S 302-01-2/CRN

L8 97 S L7 NOT ((PMS OR MXS OR IDS OR MNS)/CI OR COMPD OR WITH OR LAB

L9 80 S L8 NOT SALT

L10 12 S L9 AND NR>=1

L11 3 S L10 AND 46.150.18/RID AND 2/NC

L12 68 S L9 NOT L10

L13 64 S L12 NOT (CONJUGATE OR DERIV)

L14 17 S L8 NOT L9

L15 7 S L14 AND NR>=1

L16 10 S L14 NOT L15

L17 4 S L16 NOT HYDRAZINE SALT

L18 8 S L6,L11,L17  
E HYDRAZINE HYDRATE/CN

L19 7 S L18 NOT DERIV

L20 178 S L7 AND H2O

L21 14 S L20 AND L8

L22 21 S L19,L21  
E SODIUM CHLORIDE/CN

L23 1 S E3  
E UREA/CN

L24 1 S E3  
E GUANIDINE/CN

L25 1 S E3  
E SEMICARBAZIDE/CN

L26 1 S E3

FILE 'HCAPLUS' ENTERED AT 06:21:20 ON 06 JUL 2004

L27 66 S BETA NICOTINAMIDE ADENINE DINUCLEOTIDE

L28 14 S BETA NICOTINAMIDE ADENINE DINUCLEOTIDE PHOSPHATE

L29 85 S THIONICOTINAMIDE ADENINE DINUCLEOTIDE

L30 28 S THIONICOTINAMIDE ADENINE DINUCLEOTIDE PHOSPHATE

FILE 'HCAPLUS' ENTERED AT 06:23:25 ON 06 JUL 2004

S 53-57-6/REG# OR 53-59-8/REG# OR 4090-29-3/REG# OR 19254-05

FILE 'REGISTRY' ENTERED AT 06:23:42 ON 06 JUL 2004

L31 1 S 19254-05-8/RN

FILE 'HCAPLUS' ENTERED AT 06:23:42 ON 06 JUL 2004

L32 102 S L31

FILE 'REGISTRY' ENTERED AT 06:23:43 ON 06 JUL 2004

L33 1 S 4090-29-3/RN

FILE 'HCAPLUS' ENTERED AT 06:23:43 ON 06 JUL 2004

L34 182 S L33

FILE 'REGISTRY' ENTERED AT 06:23:43 ON 06 JUL 2004

L35 1 S 53-59-8/RN

FILE 'HCAPLUS' ENTERED AT 06:23:44 ON 06 JUL 2004

L36 6441 S L35

FILE 'REGISTRY' ENTERED AT 06:23:44 ON 06 JUL 2004

L37 1 S 53-57-6/RN

FILE 'HCAPLUS' ENTERED AT 06:23:44 ON 06 JUL 2004

L38 10584 S L37

L39 14655 S L38 OR L36 OR L34 OR L32

L40 48786 S NADP OR NADPH

L41 140 S THIONAD OR THIONADP OR THIO() (NAD OR NADP)

L42 50976 S L27-L30,L39-L41

L43 599409 S L22-L26 OR HYDRAZINE OR (NA OR SODIUM) () CHLORIDE OR UREA OR G

L44 10119 S L2 OR L\*\*\* OR LIPOPROTEIN LIPASE OR CHOLESTEROL ESTERASE

L45 3166 S L\*\*\* OR L4 OR CHOLESTEROL() (DEHYDROGENASE OR OXIDASE)

L46 103688 S L1

L47 29371 S HDL OR (HIGH OR H) () (D OR DEN OR DENSITY) (S) LIPOPROTEIN

L48 226 S VHDL OR VERY() (HIGH OR H) () (D OR DEN OR DENSITY) (S) LIPOPROTEI

L49 18105 S L46 AND L47,L48

L50 4 S L49 AND L42 AND L43

L51 15 S L49 AND (NONIONIC OR NON IONIC) (S) SURFACTANT

L52 10 S L49 AND ION? (L) STRENGTH

L53 29 S L50-L52

L54 16 S L53 AND ENZYM?

L55 16 S L53 AND L44

L56 16 S L53 AND L45

L57 19 S L54-L56

L58 10 S L53 NOT L57

L59 1 S L58 AND QUANTITATION

SEL DN AN 8 11 17 L57

L60 16 S L57 NOT E1-E9

L61 17 S L59,L60

L62 1 S (JP99-53330 OR WO2000-JP1172)/AP,PRN

E KISHI K/AU

L63 137 S E3

E KISHI KO/AU

L64 31 S E10

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L65      137 S E3
          E KISHI K/AU
L66      1 S E3
          E KOJI K/AU
L67      7 S E3,E5
          E KAKUYAMA T/AU
          E TSUTOMU K/AU
          E OCHIAI K/AU
L68      59 S E3
          E OCHIAI KO/AU
L69      14 S E3,E8
          E KOJI O/AU
          E HASEGAWA Y/AU
L70      429 S E3,E4
          E HASEGAWA YU/AU
L71      17 S E3,E38
          E YUZO H/AU
          E I REAGENT/CS,PA
          E IN REAGENT/CS,PA
          E INT REAGENT/CS,PA
L72      2 S E5,E6
          E INTL REAGENT/CS,PA
          E INT L REAGENT/CS,PA
          E INTER REAGENT/CS,PA
          E INTERN REAGENT/CS,PA
          E INTERNAT REAGENT/CS,PA
          E INTERNATIONAL REAGENT/CS,PA
L73      150 S E5-E21
L74      16 S L63-L73 AND L46
L75      13 S L74 AND L39-L45
L76      5 S L75 AND L47,L48
L77      22 S L61,L62,L76
L78      11 S L74 NOT L77
          SEL DN AN 3 4 11
L79      8 S L78 NOT E1-E9
L80      30 S L77,L79 AND L1-L6,L22-L26,L27-L30,L32,L34,L36,L38-L79
L81      30 S L80 AND (?CHOLESTER? OR ENZYM? OR ?LIPOPROTEIN? OR ?LIPASE? O
L82      1 S L81 AND BIOMOLECULE
L83      29 S L81 NOT L82
L84      25 S L1 (L) (ANT OR ANST)/RL AND L83
L85      4 S L83 NOT L84
L86      29 S L84,L85
L87      4 S L86 AND (NAD OR NADP OR THIONAD OR THIONADP OR THIO() (NAD OR
L88      29 S L86,L87
          SEL HIT RN

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FILE 'REGISTRY' ENTERED AT 06:53:53 ON 06 JUL 2004

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L89      9 S E10-E18

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FILE 'REGISTRY' ENTERED AT 06:54:15 ON 06 JUL 2004

FILE 'HCAPLUS' ENTERED AT 06:54:25 ON 06 JUL 2004

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          E ENZYME/CT
L90      19072 S L46 AND E83+NT
L91      2270 S L46 AND E83+OLD,PFT
L92      79 S L46 AND E281
L93      1316 S L90-L92 AND L1 (L) (ANT OR ANST)/RL
L94      42 S L93 AND L42
L95      313 S L93 AND L43
L96      3 S L94 AND L95
L97      3 S L96 NOT L88
L98      36 S L94 NOT L97,L88

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SEL DN AN 9 18 30 34
L99      4 S L98 AND E1-E12
L100     4 S L99 AND (NAD OR NADP OR THIONAD OR THIONADP OR THIO() (NAD OR
L101     4 S L99 AND L1-L6,L22-L26,L27-L30,L32,L34,L36,L38-L88,L90-L100
L102     4 S L99 AND (?CHOLESTER? OR ENZYM? OR ?LIPOPROTEIN? OR ?LIPASE?
L103     4 S L99-L102
L104     4 S L103 AND L89
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